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ALLISON PD370-42 ADVANCED TURBOPROP ENGINE.(U)
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This study developed data on Detroit Diesel Allison (DDA) common core derivative engines for use in Maritime Patrol Aircraft (MPA) concept formulation studies. The study included the screening of potential DDA turboprop/turboshaft engines and the preparation of technical and planning information on three of the most promising engine candidates plus an all new engine. Screening of DDA derivative candidates was performed utilizing an analytical MPA model using synthesized mission profiles to rank the candidates in terms

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of fuel consumption, weight, cost and complexity. The three turboprop engines selected for further study were as follows: a derivative of the unity size T701-AD-700 shaft power engine with rematched turbine (PD 370-37), an advanced T701 turboprop derivative with 25:1 overall pressure ratio and a scaled ATEGG demonstrated compressor (PD 370-40), an advanced T701 turboprop derivative with 17.7:1 overall pressure ratio and a scaled ATEGG demonstrated compressor (PD 370-41). Data is also presented on a new advanced turboprop engine with 30:1 overall pressure ratio which incorporates compressor, combustor, turbine, and cooling technology now under development and demonstration at DDA. The documentation consists of six seperate reports prepared in the following manner. One report summarizes the engine screening analysis and describes the approach to, and the conclusions of the study. A separate report for each of the three derivative engines and for the new turboprop present estimates of performance, weight, and dimensional data. The engineering budgetary estimates of the development, acquisition, and service costs for each of the four engines are presented in a separate report.

Detroit Diesel Allison
Division of General Motors Corporation
Indianapolis, Indiana 46206

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Detroit Diesel Allison
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Indianapolis, Indiana 46206

REVISIONS

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A	4	All weights
A	6	All weights
A	10	Additional matrix points at 0 and 25,000 feet
A	13	Additional performance
A	18	Additional performance
A	23	Additional performance
A	28	Additional performance

I. INTRODUCTION

This report presents estimates of performance, weight, and dimensional data for the PD 370-42 turboprop engine. The PD 370-42 is an advanced turboprop engine with 30:1 overall pressure ratio. It incorporates compressor, combustor, turbine, and cooling techniques now under development and demonstration at DDA. The technologies represent the highest levels that can be offered for IOC's circa 1990's. The engine is in the 9,000 to 10,000 SHP class, but scaling data is included to provide for studies down to 6,000 and up to 12,000 SHP. The data is submitted for use in preliminary design type studies in the evaluation of turboprop systems.

The reduction gearbox for speed reduction to the prop-fan is a new simplified design, compared to the DDA T56 series of gearboxes. The new design is based upon a study into the reliability and maintenance cost history of past turboprop systems, and follows the recommendations of that study for a gearbox with high reliability, easy maintainability, and low maintenance costs.

II. ENGINE DESCRIPTION

The Model PD 370-42 is an axial flow engine, having a single spool core and a free power turbine connected by shafting, and supporting structure to an offset reduction gear assembly. The general arrangement and external features of the engine are shown in Figure II-1, with principle physical characteristics listed in Table II-I. Output speed of the engine is constant at 12,860 RPM. The reduction gearbox shown in Figure II-1 has an overall gear ratio of 9.52:1, providing a propfan speed of 1351 rpm at 12,860 engine rpm. Parametric weight data is shown in Section III so that other propfan rotational speeds, and gear ratios can be analyzed. An aircraft accessory drive pad is provided on the back of the gearbox to drive an aircraft mounted accessory drive box. Power available at this pad is 500 HP at 8000 rpm. The primary engine mounts are on the gearbox with a hang mount at the rear of the engine. Engine accessories are driven by a bevel drive from the high pressure spool. The control system is integral with the propfan and is digital electronic. The oil system is integral to the engine and also supplies the propfan and reduction gearbox, but is separately filtered and monitored to isolate fault detection in each of these major modules. Engine torque is measured hydraulically from the gear thrust of the power train idler gears in the reduction gearbox.

The gearbox is shown offset, based upon DDA's experience with large turboprop engines. It is offset-up to be consistent with current studies showing a preference to under-the-wing engine mounting. It can also be supplied in the offset-down position.

Performance ratings, sea level static, are listed in Table II-II.

For preliminary design studies, the PD 370-42 engine configuration can be scaled to other power ratings. Scaling information is included for dimensions, weight, and performance.

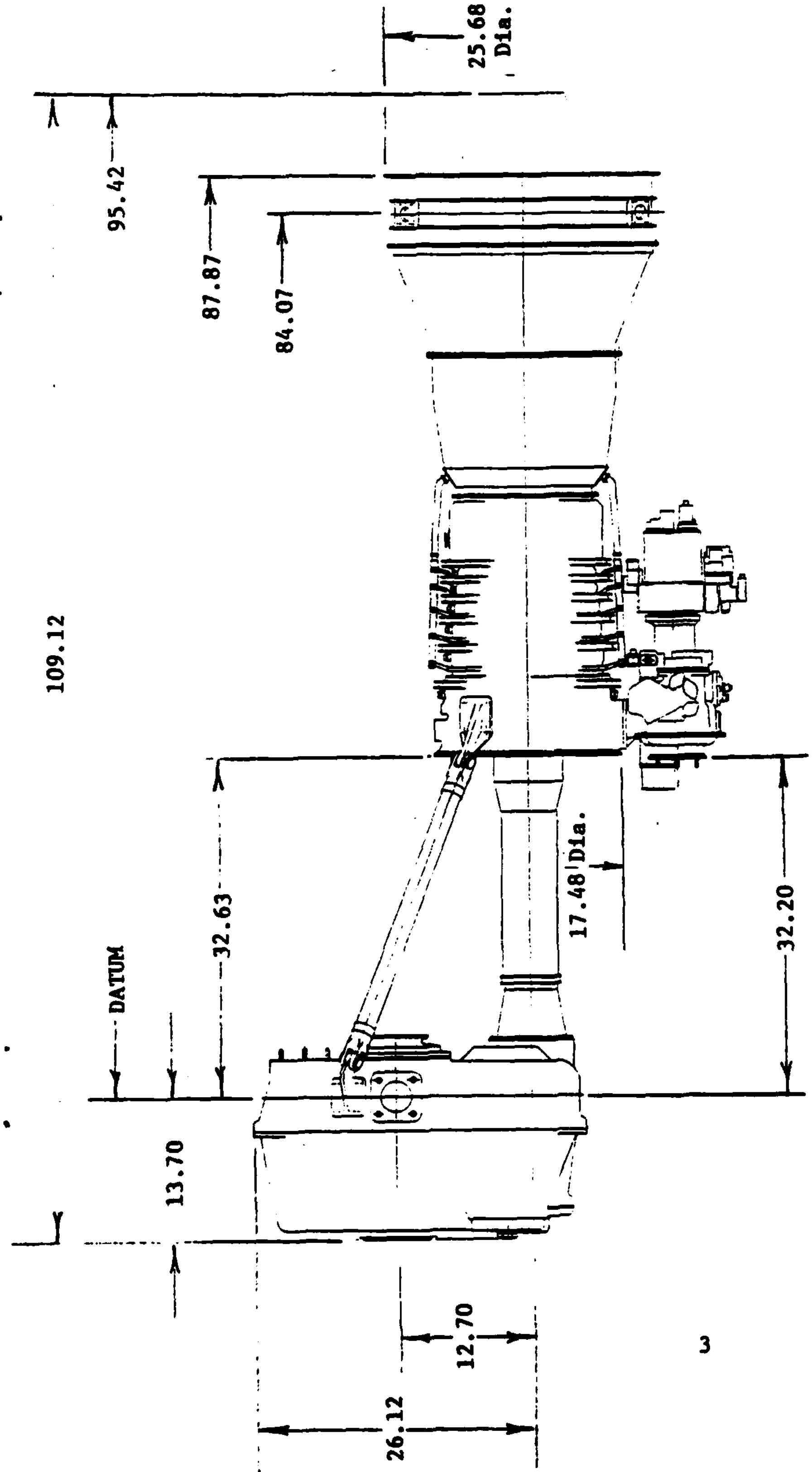

Figure II-1. PD370-42 General Arrangement.

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TABLE II-I

PD 370-42 PHYSICAL CHARACTERISTICS

(Includes Gearbox)

Length (in)	109.12
Max. Engine Diameter (in)	25.68
Max. Gearbox Offset, upward (in)	26.12
Dry Weight, lbs	
Engine	886 ~~899~~
Gearbox, including interconnecting struts and *shaft*	585 ~~468~~
Total	1471 ~~1367~~

For scaling dimensions the following formulae may be used for SHP's up to 12,000 and down to 6,000, and for other reduction gear ratios than 9.52:1.

Engine

$$\text{Axial dimensions} = \text{Base dim.} \times \left(\frac{\text{SHP}}{9{,}610}\right)^{0.4}$$

$$\text{Diameters} = \text{Base dia.} \times \left(\frac{\text{SHP}}{9{,}610}\right)^{0.5}$$

Reduction Gearbox

$$\text{Dimensions} = \text{Base dim.} \times \left(\frac{\text{SHP}}{9{,}610}\right)^{0.5} \times \left(\frac{\text{GR}}{9.52}\right)^{0.33}$$

Shaft length remains unchanged.

TABLE II-II

PD370-42 PERFORMANCE SUMMARY

Sea Level, 0 kts

	Standard Day			Hot Day, 89.8°F		
	SHP	SFC	F_N	SHP	SFC	F_N
Take-Off	9,610	0.348	827	7,924	0.363	645
Max. Continuous	7,302	0.363	604	5,989	0.381	474

III. WEIGHTS

The weight of the basic 9,610 SHP engine, gearbox, and the interconnecting struts and shaft are given in Table III-I. The gearbox weight is based upon a gear ratio of 9.52:1 which provides a propfan speed of 1351 rpm.

TABLE III-I

PD 370-42 WEIGHTS

	Dry	Wet*	Installed
Basic Engine, lbs	886	907	907
Gearbox, lbs	557	597	597
Interconnecting Struts and Shaft, lbs	28	28	28
Total, lbs	1471	1532	1532

* Includes total amount of oil required for engine and gearbox operation.

For scaling weights to engine sizes up to 12,000 and down to 6,000 SHP, and for other reduction gear ratios, the following formulae may be used:

$$\text{Engine weight} = 886 \times \left(\frac{HP}{9{,}610}\right)^{1.01}$$

$$\text{Gearbox weight} = 557 \times \left(\frac{HP}{9{,}610}\right)^{1.5} \times \left(\frac{GR}{9.52}\right)^{0.4}$$

Interconnecting strut and shaft weight = 5.1% of dry gearbox weight

IV. STEADY STATE PERFORMANCE

Steady state performance data is tabulated in this section for all points shown in Figure IV-1. Basic engine data is shown for the following assumptions:

- Uninstalled engine
- ICAO standard atmosphere except for takeoff which in addition includes an ambient temperature of 89.8°F at standard atmosphere
- 100% inlet recovery
- Zero accessory horsepower extraction
- Zero customer bleed extraction
- Zero losses due to reduction gear
- Fuel heating value - 18,400 Btu/lb
- Estimated average engine performance - No SHP or fuel flow guarantee factors

Sensitivity data is provided for each point so that bleed and duct losses may be estimated as required.

Nomenclature

Nomenclature used in the tabulation of performance is as follows:

MACH	Mach number
SHP	Shaft horsepower
SFC	Specific fuel consumption, lbs/hr/hp
WF	Engine fuel flow, lbs/hr
FN	Net jet thrust, lbs (jet gross thrust - ram drag)
ESHP	Equivalent shaft horsepower (energy in jet stream converted ideally to horsepower and added to SHP)
WCIN	Total inlet corrected airflow, $W\sqrt{\theta_1}/\delta_1$

where: $\theta_1 = \dfrac{\text{Engine inlet total temp, } ^{\circ}R}{518.688}$

$$\delta_1 = \frac{\text{Engine inlet total pressure, psi}}{14.696}$$

TNOZ — Jet nozzle total temperature, $^{\circ}R$

PNOZ — Jet nozzle total pressure, psi

RC — Compressor pressure ratio

BOT — Burner outlet temperature, $^{\circ}R$

NO — Point number

Sensitivity Data

Bleed:

SHP, with bleed = SHP, no bleed - (DEL SHP)(% bleed)

WF, with bleed = WF, no bleed - (DEL WF)(% bleed)

FN, with bleed = FN, no bleed - (DEL FN)(% bleed)

Inlet Recovery:

η_R = Total pressure actual/Total pressure ideal

SHP, with recovery = SHP, ideal recovery - (DEL SHP)$(1 - \eta_R)$(100)

WF, with recovery = WF, ideal recovery (η_R)

FN, with recovery = FN, ideal recovery - (DEL FN)$(1 - \eta_R)$(100)

Jet Nozzle Duct Loss:

To estimate thrust loss due to additional duct loss prior to the jet nozzle, use the following equation:

$$\text{FN, with loss} = \text{FN, without loss} - \text{FN, without loss}\ (K)\left(\frac{\Delta P}{P}\right)$$

where,

- K is obtained for each point from sensitivity data
- $\dfrac{\Delta P}{P} = \dfrac{\text{PTOT, no loss} - \text{PTOT, total loss}}{\text{PTOT, no loss}}$

Reduction Gear Loss:

Reduction gear is 99 percent efficient.

Accessory Drive Losses:

Accessory drive power extraction is directly from the accessory drive pad on the reduction gearbox. Reduce SHP to prop-fan by amount of accessory power extraction at each point.

Scale Effect on SHP and SFC:

The engine performance is scaleable for purposes of studying other engine sizes. However, component performance will vary, dependent upon the amount of scale. A correction to scale factor for SHP and SFC was formulated for component performance changes and the effects on SHP, SFC, and FN are as follows:

$$\text{Scaled SHP} = \text{Unscaled SHP} \times \left(1 - \frac{A}{100}\right) \times \text{Scale Factor}$$

$$\text{Scaled FN} = \text{Unscaled FN} \times \text{Scale Factor}$$

$$\text{Scaled SFC} = \text{Unscaled SFC} \times \left(1 + \frac{B}{100}\right)$$

where:

$$\text{Scale Factor} = \frac{\text{Desired Rating}}{\text{Unity Rating}} \quad \text{(limited from 0.6 to 1.25)}$$

A = Sizing effect on SHP

$= 11.94 \times \text{Scale factor} - 3.80 \times (\text{Scale factor})^2 - 8.14$

B = Sizing effect on SFC

$= 2.98 \times (\text{Scale factor})^2 - 9.46 \times \text{Scale factor} + 6.48$

Nozzle Throat Area

The effective nozzle throat area is constant for all conditions at 263.9 in^2.

Standard and Hot Day; Takeoff and Maximum Continuous

Altitude ($Ft \times 10^{-3}$)	MACH Number 0	.1	.2	.3
0	X	X	X	X

Standard Day; Maximum Climb, Maximum Continuous and Part Power to Idle

Altitude ($Ft \times 10^{-3}$)	MACH Number .2	.3	.4	.5	.6	.7	.75	.8
0	X	X	X	X	X	X	X	X
5	X	X	X	X	X			
10	X	X	X	X	X	X	X	X
15		X	X	X	X	X	X	X
20			X	X	X	X	X	X
25			X	X	X	X	X	X
30				X	X	X	X	X
35				X	X	X	X	X
40				X	X	X	X	X
45				X	X	X	X	X

Figure IV-1. Matrix of flight conditions for performance data

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ZERO BLEED

PD370-42 TURBOPROP

100 PERCENT RECOVERY

STD DAY

0 FEET ALTITUDE

ZERO POWER EXTRACTION

POWER	MACH	SHP	SFC	WF	FN	ESHP	WCIN	TNOZ	PNOZ	RC	NO
TO	0.0	9610.	0.348	3348.	827.0	10201.	34.0	1648.	16.36	30.0	0001
M.C.	0.0	7308.	0.362	2648.	602.9	7668.	29.6	1580.	15.89	25.3	0002
TO	0.10	9646.	0.348	3356.	713.5	10241.	33.9	1647.	16.37	29.9	0003
M.C.	0.10	7335.	0.362	2654.	503.1	7699.	29.6	1579.	15.90	25.2	0004
TO	0.20	9743.	0.346	3375.	604.1	10350.	33.5	1645.	16.39	29.5	0005
M.C.	0.20	7428.	0.360	2672.	407.0	7799.	29.3	1577.	15.92	24.9	0006
TO	0.30	9901.	0.344	3407.	498.7	10527.	32.9	1642.	16.43	28.8	0007
M.C.	0.30	7587.	0.357	2706.	315.1	7973.	28.8	1574.	15.95	24.6	0008

T AMBIENT = 89.8°F

0 FEET ALTITUDE

POWER	MACH	SHP	SFC	WF	FN	ESHP	WCIN	TNOZ	PNOZ	RC	NO
TO	0.0	7931.	0.363	2878.	645.3	8344.	30.5	1688.	15.98	26.1	0009
M.C.	0.0	5989.	0.381	2284.	474.4	6245.	26.7	1622.	15.63	22.1	0010
TO	0.10	7961.	0.362	2885.	542.9	8377.	30.4	1687.	15.99	26.0	0011
M.C.	0.10	6012.	0.381	2289.	383.7	6269.	26.6	1621.	15.63	22.0	0012
TO	0.20	8056.	0.360	2903.	444.1	8480.	30.1	1685.	16.00	25.7	0013
M.C.	0.20	6097.	0.378	2305.	297.4	6361.	26.4	1618.	15.65	21.8	0014
TO	0.30	8198.	0.358	2933.	346.3	8635.	29.6	1681.	16.03	25.1	0015
M.C.	0.30	6230.	0.374	2332.	211.6	6503.	26.0	1614.	15.67	21.3	0016

PD370-42 TURBOPROP

SENSITIVITY DATA FOR BLEED, INLET RECOVERY, AND EXHAUST DUCT LOSS

0 FEET ALTITUDE

POWER	MACH	PER PCT INLET REC DEL SHP	PER PCT INLET REC DEL FN	PER PCT BLEED DEL SHP	PER PCT BLEED DEL WF	PER PCT BLEED DEL FN	K	NO
TO	0.0	136.6	15.4	199.3	43.8	21.6	4.61	0001
M.C.	0.0	112.4	11.2	157.3	33.8	15.2	6.30	0002
TC	0.10	137.9	14.0	199.5	43.8	21.1	5.34	0003
M.C.	0.10	112.5	10.2	157.8	33.9	14.9	7.56	0004
TO	0.20	138.9	13.0	199.3	43.6	20.6	6.31	0005
M.C.	0.20	113.4	9.2	159.1	34.0	14.5	9.34	0006
TO	0.30	140.2	12.0	199.2	43.4	20.2	7.64	0007
M.C.	0.30	114.5	8.4	163.4	34.9	14.8	12.07	0008

T AMBIENT = 89.8°F

0 FEET ALTITUDE

POWER	MACH	PER PCT INLET REC DEL SHP	PER PCT INLET REC DEL FN	PER PCT BLEED DEL SHP	PER PCT BLEED DEL WF	PER PCT BLEED DEL FN	K	NO
TO	0.0	115.7	12.0	168.9	36.9	16.5	5.89	0009
M.C.	0.0	97.7	9.0	125.3	26.9	11.4	8.01	0010
TO	0.10	120.1	10.9	169.6	37.0	16.1	7.01	0011
M.C.	0.10	97.9	8.0	125.7	26.8	11.3	9.91	0012
TO	0.20	121.0	9.9	170.9	37.2	15.7	8.56	0013
M.C.	0.20	95.0	7.2	126.0	26.7	10.9	12.79	0014
TC	0.30	122.2	8.9	173.7	37.6	15.6	10.95	0015
M.C.	0.30	100.4	6.3	126.4	26.5	10.8	17.96	0016

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GENERAL MOTORS CORPORATION

PD370-42 TURBOPROP

ZERO BLEED

100 PERCENT RECOVERY

ZERO POWER EXTRACTION

STD DAY

0 FEET ALTITUDE

POWER	MACH	SHP	SFC	WF	FN	ESHP	WCIN	TNOZ	PNOZ	RC	NO
CLIMB	0.20	8175.	0.355	2902.	469.2	8617.	30.7	1601.	16.07	26.4	A
M.C.	0.20	7427.	0.360	2675.	407.8	7799.	29.3	1577.	15.92	24.9	B
	0.20	6330.	0.370	2342.	322.4	6612.	27.1	1541.	15.71	22.6	C
	0.20	4612.	0.395	1821.	209.4	4785.	23.5	1479.	15.44	18.9	D
	0.20	3209.	0.434	1392.	122.4	3311.	20.3	1421.	15.22	15.6	E
	0.20	2113.	0.495	1046.	65.5	2172.	17.3	1367.	15.07	12.8	F
	0.20	1003.	0.693	696.	13.9	1029.	13.1	1350.	14.91	9.2	G
	0.20	255.	1.658	423.	-10.9	265.	9.1	1354.	14.81	6.1	H
CLIMB	0.30	8337.	0.352	2934.	372.1	8794.	30.2	1597.	16.10	25.8	I
M.C.	0.30	7572.	0.357	2702.	314.1	7957.	28.8	1573.	15.95	24.3	J
	0.30	6467.	0.366	2370.	234.4	6759.	26.7	1537.	15.73	22.1	K
	0.30	4726.	0.390	1843.	130.5	4906.	23.2	1474.	15.46	18.5	L
	0.30	3305.	0.427	1410.	54.7	3411.	20.0	1416.	15.24	15.3	M
	0.30	2183.	0.485	1059.	5.4	2245.	17.1	1361.	15.08	12.6	N
	0.30	1044.	0.674	704.	-31.2	1071.	12.9	1345.	14.92	9.1	O
	0.30	270.	1.583	427.	-44.2	279.	9.0	1351.	14.81	6.0	P
CLIMB	0.40	8559.	0.348	2976.	277.4	9040.	29.5	1592.	16.15	25.1	1
M.C.	0.40	7783.	0.352	2743.	221.8	8187.	28.2	1568.	15.99	23.7	2
	0.40	6664.	0.361	2407.	150.4	6974.	26.2	1531.	15.78	21.6	3
	0.40	4891.	0.383	1874.	53.7	5081.	22.8	1467.	15.49	18.1	4
	0.40	3442.	0.417	1436.	-13.2	3555.	19.7	1408.	15.26	15.0	5
	0.40	2281.	0.472	1078.	-55.4	2346.	16.8	1354.	15.09	12.3	6
	0.40	1100.	0.650	715.	-79.5	1128.	12.7	1338.	14.92	8.8	7
	0.40	295.	1.469	433.	-77.0	305.	8.8	1345.	14.81	5.8	8
CLIMB	0.50	8854.	0.343	3034.	183.4	9365.	28.7	1586.	16.22	24.2	9
M.C.	0.50	8061.	0.347	2797.	131.3	8492.	27.4	1561.	16.06	22.8	10
	0.50	6929.	0.355	2459.	63.9	7261.	25.5	1524.	15.84	20.9	11
	0.50	5103.	0.375	1913.	-26.9	5305.	22.2	1459.	15.53	17.5	12
	0.50	3622.	0.406	1469.	-83.3	3744.	19.3	1399.	15.30	14.6	13
	0.50	2400.	0.458	1099.	-118.1	2470.	16.4	1346.	15.11	11.9	14
	0.50	1175.	0.620	729.	-128.8	1205.	12.4	1329.	14.94	8.6	15
	0.50	328.	1.341	440.	-113.0	339.	8.6	1337.	14.82	5.6	16
CLIMB	0.60	9209.	0.337	3105.	86.8	9758.	27.8	1579.	16.30	23.2	17
M.C.	0.60	8417.	0.341	2866.	39.9	8886.	26.6	1553.	16.14	21.9	18
	0.60	7249.	0.347	2518.	-25.0	7608.	24.8	1515.	15.91	20.0	19
	0.60	5372.	0.365	1963.	-108.6	5592.	21.6	1450.	15.58	16.8	20
	0.60	3846.	0.392	1509.	-157.3	3980.	18.8	1388.	15.34	14.0	21
	0.60	2538.	0.442	1121.	-182.9	2615.	15.9	1337.	15.14	11.4	22
	0.60	1268.	0.588	745.	-182.2	1301.	12.1	1319.	14.95	8.3	23
	0.60	829.	0.726	602.	-173.2	850.	10.5	1310.	14.89	7.0	24
CLIMB	0.70	9660.	0.330	3190.	-10.0	10261.	26.8	1569.	16.41	22.1	25
M.C.	0.70	8839.	0.333	2945.	-56.3	9351.	25.6	1544.	16.23	20.9	26
	0.70	7622.	0.339	2586.	-117.4	8016.	23.9	1505.	15.99	19.1	27
	0.70	5700.	0.355	2021.	-193.3	5944.	20.9	1439.	15.65	16.1	28
	0.70	4116.	0.378	1557.	-238.0	4264.	18.2	1376.	15.38	13.5	29
	0.70	2678.	0.426	1141.	-253.8	2760.	15.2	1328.	15.16	10.8	30
	0.70	1382.	0.553	764.	-244.5	1416.	11.7	1307.	14.95	7.9	31
	0.70	915.	0.674	617.	-222.9	939.	10.2	1298.	14.90	6.7	32
CLIMB	0.75	9911.	0.327	3240.	-59.7	10563.	26.2	1565.	16.47	21.5	33
M.C.	0.75	9077.	0.329	2989.	-105.5	9615.	25.1	1539.	16.29	20.3	34
	0.75	7837.	0.335	2625.	-165.5	8252.	23.4	1500.	16.04	18.6	35
	0.75	5880.	0.349	2053.	-240.6	6136.	20.5	1433.	15.68	15.7	36
	0.75	4269.	0.371	1583.	-280.3	4425.	17.9	1370.	15.41	13.2	37
	0.75	2744.	0.419	1149.	-290.1	2829.	14.8	1325.	15.18	10.4	38
	0.75	1449.	0.535	775.	-273.3	1486.	11.5	1300.	14.96	7.7	39
	0.75	960.	0.650	624.	-249.6	986.	10.0	1292.	14.91	6.5	40
CLIMB	0.80	10194.	0.323	3292.	-110.3	10859.	25.7	1560.	16.54	20.9	41
M.C.	0.80	9334.	0.325	3037.	-155.9	9901.	24.6	1533.	16.35	19.8	42
	0.80	8074.	0.330	2667.	-215.9	8511.	22.9	1494.	16.10	18.1	43
	0.80	6081.	0.343	2088.	-287.2	6352.	20.1	1426.	15.72	15.3	44
	0.80	4435.	0.363	1610.	-324.2	4601.	17.6	1363.	15.44	12.8	45
	0.80	2804.	0.412	1156.	-328.1	2891.	14.4	1321.	15.18	10.1	46
	0.80	1518.	0.518	786.	-305.5	1558.	11.3	1294.	14.98	7.5	47
	0.80	1010.	0.625	632.	-277.2	1037.	9.8	1286.	14.92	6.4	48

PD370-42 TURBOPROP

ZERO BLEED 100 PERCENT RECOVERY ZERO POWER EXTRACTION

STD DAY

5000 FEET ALTITUDE

POWER	MACH	SHP	SFC	WF	FN	ESHP	WCIN	TNOZ	PNOZ	RC	NO
CLIMB	0.20	7638.	0.346	2643.	468.5	8092.	32.8	1577.	13.55	28.6	0049
M.C.	0.20	6934.	0.351	2433.	407.7	7315.	31.2	1553.	13.41	26.9	0050
	0.20	5932.	0.359	2131.	328.4	6225.	28.9	1517.	13.22	24.5	0051
	0.20	4345.	0.381	1656.	208.7	4519.	25.1	1453.	12.93	20.4	0052
	0.20	3053.	0.415	1266.	127.1	3155.	21.6	1395.	12.73	16.9	0053
	0.20	2043.	0.467	954.	70.4	2103.	18.5	1340.	12.58	13.9	0054
	0.20	1144.	0.587	672.	27.1	1174.	14.9	1303.	12.46	10.6	0055
	0.20	401.	1.052	421.	-5.2	412.	10.7	1296.	12.34	7.3	0056
CLIMB	0.30	7765.	0.344	2669.	383.5	8234.	32.2	1574.	13.59	28.0	0057
M.C.	0.30	7064.	0.348	2458.	326.5	7460.	30.7	1550.	13.44	26.4	0058
	0.30	6051.	0.356	2155.	247.5	6350.	28.5	1513.	13.23	24.0	0059
	0.30	4448.	0.377	1676.	140.7	4628.	24.7	1449.	12.95	20.1	0060
	0.30	3138.	0.409	1282.	68.0	3245.	21.3	1390.	12.74	16.6	0061
	0.30	2110.	0.458	967.	18.6	2172.	18.2	1334.	12.59	13.6	0062
	0.30	1169.	0.578	676.	-16.3	1200.	14.6	1300.	12.46	10.4	0063
	0.30	425.	1.004	427.	-36.6	436.	10.6	1291.	12.35	7.2	0064
CLIMB	0.40	7960.	0.340	2707.	299.9	8451.	31.5	1569.	13.63	27.2	0065
M.C.	0.40	7249.	0.344	2494.	246.8	7665.	30.0	1545.	13.49	25.6	0066
	0.40	6216.	0.352	2186.	174.0	6533.	27.9	1508.	13.28	23.3	0067
	0.40	4601.	0.371	1706.	73.0	4791.	24.3	1443.	12.98	19.6	0068
	0.40	3259.	0.400	1305.	8.0	3373.	20.9	1383.	12.77	16.2	0069
	0.40	2205.	0.447	985.	-33.3	2272.	17.9	1327.	12.61	13.3	0070
	0.40	1201.	0.566	680.	-60.9	1234.	14.2	1296.	12.46	10.0	0071
	0.40	458.	0.946	433.	-69.3	470.	10.4	1284.	12.35	7.0	0072
CLIMB	0.50	8210.	0.336	2759.	217.7	8731.	30.6	1564.	13.69	26.2	0073
M.C.	0.50	7493.	0.339	2543.	167.0	7934.	29.2	1539.	13.54	24.7	0074
	0.50	6444.	0.346	2232.	98.6	6782.	27.1	1501.	13.33	22.5	0075
	0.50	4791.	0.363	1741.	6.2	4997.	23.6	1435.	13.02	18.9	0076
	0.50	3416.	0.390	1334.	-54.3	3538.	20.4	1374.	12.79	15.7	0077
	0.50	2327.	0.433	1007.	-88.9	2399.	17.6	1318.	12.63	12.9	0078
	0.50	1244.	0.551	685.	-106.3	1278.	13.7	1292.	12.47	9.6	0079
	0.50	501.	0.882	442.	-104.5	514.	10.2	1275.	12.36	6.8	0080
CLIMB	0.60	8531.	0.330	2819.	136.0	9091.	29.5	1557.	13.78	25.1	0081
M.C.	0.60	7796.	0.334	2601.	85.7	8269.	28.2	1532.	13.61	23.7	0082
	0.60	6727.	0.340	2285.	21.2	7091.	26.3	1493.	13.39	21.6	0083
	0.60	5028.	0.355	1784.	-63.7	5252.	22.9	1426.	13.08	18.2	0084
	0.60	3615.	0.379	1369.	-118.5	3748.	19.9	1364.	12.83	15.1	0085
	0.60	2478.	0.417	1033.	-146.5	2558.	17.1	1307.	12.66	12.5	0086
	0.60	1326.	0.527	699.	-153.4	1362.	13.3	1283.	12.49	9.2	0087
	0.60	551.	0.818	451.	-140.3	566.	9.9	1265.	12.37	6.5	0088

DETROIT DIESEL ALLISON DIVISION | EDR 9777 | GENERAL MOTORS CORPORATION

PD370-42 TURBOPROP

ZERO BLEED | 100 PERCENT RECOVERY | ZERO POWER EXTRACTION

STD DAY

10000 FEET ALTITUDE

POWER	MACH	SHP	SFC	WF	FN	ESHP	WCIN	TNOZ	PNOZ	RC	NO
CLIMB	0.20	7051.	0.339	2390.	462.9	7514.	34.9	1555.	11.39	31.1	0089
M.C.	0.20	6465.	0.342	2213.	409.1	6860.	33.4	1530.	11.26	29.4	0090
	0.20	5522.	0.350	1934.	325.8	5820.	30.9	1493.	11.06	26.6	0091
	0.20	4080.	0.368	1503.	211.7	4258.	26.8	1428.	10.78	22.2	0092
	0.20	2892.	0.397	1149.	131.2	2997.	23.0	1369.	10.59	18.4	0093
	0.20	1956.	0.443	865.	75.5	2016.	19.7	1313.	10.45	15.0	0094
	0.20	1208.	0.523	632.	35.9	1242.	16.5	1263.	10.34	12.0	0095
	0.20	482.	0.829	400.	2.8	495.	12.0	1254.	10.23	8.3	0096
CLIMB	0.30	7203.	0.336	2423.	391.4	7685.	34.4	1551.	11.42	30.5	0097
M.C.	0.30	6568.	0.340	2233.	336.2	6975.	32.8	1527.	11.28	28.7	0098
	0.30	5633.	0.347	1954.	259.5	5941.	30.4	1489.	11.08	26.1	0099
	0.30	4169.	0.365	1520.	152.0	4353.	26.4	1424.	10.80	21.8	0100
	0.30	2967.	0.392	1163.	80.0	3077.	22.7	1364.	10.60	18.0	0101
	0.30	2016.	0.435	877.	30.3	2080.	19.4	1308.	10.46	14.8	0102
	0.30	1246.	0.513	639.	-2.7	1282.	16.3	1258.	10.34	11.8	0103
	0.30	505.	0.801	405.	-26.3	519.	11.9	1249.	10.23	8.2	0104
CLIMB	0.40	7391.	0.333	2461.	320.8	7898.	33.7	1547.	11.47	29.6	0105
M.C.	0.40	6722.	0.337	2263.	265.8	7147.	32.1	1523.	11.32	27.9	0106
	0.40	5783.	0.343	1982.	194.1	6107.	29.7	1484.	11.12	25.3	0107
	0.40	4296.	0.359	1544.	94.1	4490.	25.8	1418.	10.83	21.2	0108
	0.40	3074.	0.385	1183.	28.2	3190.	22.3	1358.	10.63	17.6	0109
	0.40	2102.	0.425	893.	-15.1	2170.	19.1	1300.	10.47	14.5	0110
	0.40	1296.	0.500	648.	-42.9	1333.	15.9	1253.	10.35	11.5	0111
	0.40	537.	0.766	411.	-57.5	550.	11.7	1242.	10.23	8.0	0112
CLIMB	0.50	7598.	0.329	2502.	250.0	8135.	32.7	1543.	11.53	28.5	0113
M.C.	0.50	6934.	0.332	2304.	197.1	7385.	31.1	1518.	11.37	26.8	0114
	0.50	5979.	0.338	2020.	128.8	6324.	28.9	1478.	11.17	24.4	0115
	0.50	4465.	0.353	1576.	35.1	4673.	25.2	1411.	10.87	20.5	0116
	0.50	3211.	0.376	1208.	-26.9	3334.	21.7	1349.	10.65	17.0	0117
	0.50	2214.	0.412	913.	-63.0	2288.	18.7	1292.	10.49	14.0	0118
	0.50	1357.	0.485	657.	-83.9	1396.	15.5	1246.	10.37	11.1	0119
	0.50	580.	0.723	419.	-91.2	594.	11.4	1234.	10.23	7.7	0120
CLIMB	0.60	7861.	0.325	2554.	178.3	8434.	31.5	1537.	11.60	27.2	0121
M.C.	0.60	7195.	0.327	2354.	128.9	7680.	30.1	1511.	11.44	25.7	0122
	0.60	6215.	0.332	2066.	61.7	6585.	27.9	1472.	11.22	23.4	0123
	0.60	4676.	0.345	1614.	-25.9	4902.	24.4	1403.	10.91	19.7	0124
	0.60	3385.	0.366	1239.	-82.7	3519.	21.1	1340.	10.68	16.4	0125
	0.60	2353.	0.398	937.	-113.8	2433.	18.2	1281.	10.52	13.5	0126
	0.60	1419.	0.470	666.	-127.7	1460.	14.9	1240.	10.37	10.5	0127
	0.60	635.	0.676	429.	-125.9	650.	11.1	1223.	10.24	7.5	0128
CLIMB	0.70	8189.	0.320	2620.	107.2	8810.	30.2	1531.	11.69	25.8	0129
M.C.	0.70	7511.	0.322	2416.	58.3	8036.	28.9	1504.	11.52	24.4	0130
	0.70	6516.	0.326	2124.	-5.7	6920.	26.9	1464.	11.30	22.2	0131
	0.70	4942.	0.336	1662.	-88.9	5190.	23.6	1393.	10.97	18.8	0132
	0.70	3595.	0.355	1276.	-141.3	3743.	20.4	1329.	10.72	15.7	0133
	0.70	2520.	0.383	966.	-167.9	2608.	17.7	1270.	10.55	13.0	0134
	0.70	1480.	0.455	673.	-172.9	1524.	14.2	1234.	10.39	9.9	0135
	0.70	698.	0.630	440.	-162.4	715.	10.8	1212.	10.25	7.1	0136
CLIMB	0.75	8387.	0.317	2657.	72.6	9038.	29.6	1527.	11.75	25.1	0137
M.C.	0.75	7689.	0.319	2450.	22.9	8239.	28.3	1500.	11.57	23.7	0138
	0.75	6684.	0.322	2155.	-39.9	7108.	26.4	1459.	11.34	21.7	0139
	0.75	5073.	0.332	1686.	-122.5	5333.	23.1	1388.	11.00	18.3	0140
	0.75	3715.	0.349	1297.	-172.3	3871.	20.1	1323.	10.75	15.3	0141
	0.75	2614.	0.375	981.	-196.1	2707.	17.4	1264.	10.57	12.7	0142
	0.75	1513.	0.447	676.	-196.2	1558.	13.8	1231.	10.39	9.6	0143
	0.75	733.	0.608	445.	-180.9	751.	10.6	1206.	10.26	7.0	0144
CLIMB	0.80	8599.	0.314	2697.	38.1	9286.	28.9	1524.	11.81	24.4	0145
M.C.	0.80	7883.	0.316	2488.	-13.1	8461.	27.7	1496.	11.62	23.0	0146
	0.80	6874.	0.319	2190.	-75.0	7321.	25.8	1454.	11.39	21.1	0147
	0.80	5225.	0.328	1712.	-156.7	5499.	22.6	1383.	11.03	17.8	0148
	0.80	3846.	0.343	1319.	-203.6	4013.	19.7	1317.	10.77	14.9	0149
	0.80	2712.	0.368	997.	-225.8	2811.	17.0	1257.	10.58	12.3	0150
	0.80	1560.	0.437	682.	-221.1	1607.	13.4	1227.	10.40	9.3	0151
	0.80	768.	0.587	451.	-199.1	788.	10.4	1201.	10.28	6.8	0152

DETROIT DIESEL ALLISON DIVISION — EDR 9777 — GENERAL MOTORS CORPORATION

PD370-42 TURBOPROP

ZERO BLEED — 100 PERCENT RECOVERY — ZERO POWER EXTRACTION

STD DAY

15000 FEET ALTITUDE

POWER	MACH	SHP	SFC	WF	FN	ESHP	WCIN	TNOZ	PNOZ	RC	NO
CLIMB	0.30	6025.	0.333	2007.	338.5	6437.	35.0	1505.	9.42	31.2	0153
M.C.	0.30	5225.	0.338	1767.	268.2	5543.	32.6	1465.	9.24	28.5	0154
	0.30	3873.	0.354	1371.	160.9	4061.	28.2	1400.	8.96	23.7	0155
	0.30	2792.	0.377	1052.	87.6	2902.	24.3	1337.	8.76	19.6	0156
	0.30	1913.	0.414	792.	39.6	1977.	20.8	1281.	8.63	16.1	0157
	0.30	1225.	0.476	583.	6.6	1261.	17.6	1229.	8.52	13.0	0158
	0.30	562.	0.675	380.	-16.4	577.	13.2	1210.	8.42	9.3	0159
CLIMB	0.40	6673.	0.328	2190.	324.7	7175.	35.6	1529.	9.58	31.9	0160
M.C.	0.40	6208.	0.330	2047.	282.2	6645.	34.4	1500.	9.47	30.4	0161
	0.40	5348.	0.335	1791.	209.9	5679.	31.8	1461.	9.27	27.6	0162
	0.40	3990.	0.349	1392.	110.5	4188.	27.6	1394.	8.99	23.0	0163
	0.40	2891.	0.370	1070.	44.6	3009.	23.8	1332.	8.79	19.2	0164
	0.40	1988.	0.405	806.	-0.8	2056.	20.4	1274.	8.64	15.7	0165
	0.40	1281.	0.463	593.	-28.2	1319.	17.3	1222.	8.53	12.7	0166
	0.40	592.	0.650	385.	-43.8	608.	13.0	1204.	8.43	9.0	0167
CLIMB	0.50	6949.	0.324	2252.	272.6	7494.	34.9	1523.	9.66	31.0	0168
M.C.	0.50	6399.	0.326	2085.	224.7	6863.	33.4	1496.	9.52	29.3	0169
	0.50	5515.	0.331	1824.	154.4	5867.	30.9	1457.	9.31	26.6	0170
	0.50	4139.	0.343	1420.	59.6	4350.	26.9	1388.	9.02	22.3	0171
	0.50	3005.	0.363	1091.	-2.7	3131.	23.2	1324.	8.81	18.5	0172
	0.50	2087.	0.394	823.	-42.0	2160.	19.9	1266.	8.66	15.2	0173
	0.50	1353.	0.448	606.	-64.7	1394.	16.9	1213.	8.54	12.3	0174
	0.50	631.	0.621	392.	-73.9	648.	12.7	1196.	8.43	8.7	0175
CLIMB	0.60	7232.	0.320	2311.	216.8	7823.	33.8	1517.	9.74	29.7	0176
M.C.	0.60	6607.	0.322	2126.	164.2	7101.	32.2	1491.	9.58	27.9	0177
	0.60	5726.	0.326	1864.	97.9	6103.	29.9	1450.	9.37	25.4	0178
	0.60	4323.	0.336	1455.	7.7	4552.	26.0	1380.	9.06	21.3	0179
	0.60	3156.	0.354	1118.	-50.0	3293.	22.5	1316.	8.84	17.8	0180
	0.60	2211.	0.382	845.	-85.0	2291.	19.4	1256.	8.68	14.7	0181
	0.60	1435.	0.432	620.	-104.0	1479.	16.4	1204.	8.56	11.8	0182
	0.60	681.	0.588	401.	-104.1	699.	12.3	1187.	8.44	8.4	0183
CLIMB	0.70	7495.	0.315	2363.	155.4	8131.	32.3	1512.	9.82	28.1	0184
M.C.	0.70	6883.	0.317	2179.	106.2	7419.	30.9	1485.	9.66	26.5	0185
	0.70	5979.	0.320	1913.	40.4	6389.	28.7	1443.	9.43	24.2	0186
	0.70	4547.	0.329	1496.	-46.6	4797.	25.1	1371.	9.11	20.4	0187
	0.70	3338.	0.344	1150.	-101.0	3487.	21.8	1306.	8.88	17.0	0188
	0.70	2360.	0.369	871.	-130.7	2449.	18.8	1245.	8.71	14.0	0189
	0.70	1525.	0.415	633.	-144.9	1572.	15.8	1195.	8.57	11.2	0190
	0.70	741.	0.554	411.	-136.9	761.	11.9	1176.	8.45	8.0	0191
CLIMB	0.75	7653.	0.313	2394.	126.8	8318.	31.6	1509.	9.88	27.3	0192
M.C.	0.75	7044.	0.314	2210.	78.2	7608.	30.2	1481.	9.71	25.8	0193
	0.75	6119.	0.317	1939.	11.1	6548.	28.1	1439.	9.47	23.5	0194
	0.75	4673.	0.325	1519.	-73.8	4936.	24.6	1366.	9.14	19.8	0195
	0.75	3442.	0.339	1168.	-127.6	3599.	21.4	1300.	8.90	16.5	0196
	0.75	2445.	0.362	885.	-154.9	2538.	18.5	1239.	8.73	13.7	0197
	0.75	1571.	0.407	640.	-165.9	1621.	15.4	1191.	8.58	10.9	0198
	0.75	773.	0.537	415.	-154.8	793.	11.6	1171.	8.45	7.8	0199
CLIMB	0.80	7822.	0.310	2428.	96.2	8518.	30.9	1506.	9.93	26.5	0200
M.C.	0.80	7201.	0.311	2241.	46.8	7789.	29.5	1478.	9.75	25.0	0201
	0.80	6277.	0.314	1970.	-17.8	6729.	27.5	1435.	9.52	22.8	0202
	0.80	4812.	0.321	1544.	-102.4	5089.	24.1	1362.	9.18	19.3	0203
	0.80	3555.	0.334	1187.	-154.6	3720.	20.9	1295.	8.92	16.1	0204
	0.80	2536.	0.355	900.	-180.5	2635.	18.1	1233.	8.74	13.4	0205
	0.80	1611.	0.400	644.	-188.2	1662.	15.0	1187.	8.59	10.6	0206
	0.80	815.	0.518	422.	-173.6	836.	11.5	1164.	8.46	7.6	0207

DETROIT DIESEL ALLISON DIVISION | EDR 9777 | GENERAL MOTORS CORPORATION

PD370-42 TURBOPROP

ZERO BLEED | 100 PERCENT RECOVERY | ZERO POWER EXTRACTION

STD DAY

20000 FEET ALTITUDE

POWER	MACH	SHP	SFC	WF	FN	ESHP	WCIN	TNOZ	PNOZ	RC	NO
CLIMB	0.40	5801.	0.326	1893.	305.6	6267.	36.8	1516.	7.91	33.7	0208
M.C.	0.40	5508.	0.326	1795.	277.9	5931.	36.1	1483.	7.84	32.6	0209
	0.40	4933.	0.327	1615.	225.5	5275.	34.3	1438.	7.70	30.3	0210
	0.40	3692.	0.339	1252.	124.9	3894.	29.6	1370.	7.42	25.2	0211
	0.40	2694.	0.357	963.	56.8	2812.	25.6	1306.	7.22	20.9	0212
	0.40	1872.	0.387	725.	12.9	1940.	21.9	1248.	7.08	17.1	0213
	0.40	1226.	0.436	535.	-15.9	1264.	18.5	1194.	6.98	13.9	0214
	0.40	666.	0.550	366.	-32.3	684.	14.7	1158.	6.89	10.5	0215
CLIMB	0.50	6101.	0.322	1962.	270.0	6618.	36.3	1509.	8.00	33.0	0216
M.C.	0.50	5767.	0.321	1852.	238.2	6230.	35.5	1477.	7.91	31.8	0217
	0.50	5077.	0.324	1643.	177.6	5440.	33.2	1434.	7.74	29.2	0218
	0.50	3815.	0.334	1275.	80.9	4030.	28.8	1365.	7.45	24.3	0219
	0.50	2797.	0.351	981.	17.6	2923.	24.9	1299.	7.24	20.2	0220
	0.50	1956.	0.378	740.	-22.6	2030.	21.3	1240.	7.10	16.6	0221
	0.50	1293.	0.423	547.	-47.4	1334.	18.1	1186.	6.99	13.5	0222
	0.50	685.	0.538	368.	-58.1	705.	14.2	1155.	6.90	10.0	0223
CLIMB	0.60	6457.	0.316	2044.	235.5	7039.	35.7	1501.	8.11	32.0	0224
M.C.	0.60	6036.	0.317	1911.	196.2	6544.	34.5	1471.	7.99	30.6	0225
	0.60	5244.	0.320	1676.	128.7	5631.	32.0	1429.	7.79	27.8	0226
	0.60	3970.	0.329	1305.	36.6	4202.	27.8	1358.	7.49	23.2	0227
	0.60	2929.	0.343	1006.	-23.0	3067.	24.1	1291.	7.27	19.4	0228
	0.60	2064.	0.368	759.	-59.6	2144.	20.7	1231.	7.12	16.0	0229
	0.60	1378.	0.407	561.	-79.5	1424.	17.7	1176.	7.01	13.0	0230
	0.60	714.	0.521	372.	-85.3	734.	13.6	1150.	6.90	9.5	0231
CLIMB	0.70	6807.	0.312	2122.	197.1	7458.	34.7	1495.	8.23	30.7	0232
M.C.	0.70	6279.	0.312	1962.	148.1	6831.	33.1	1466.	8.07	29.0	0233
	0.70	5457.	0.315	1718.	80.3	5875.	30.7	1423.	7.85	26.4	0234
	0.70	4164.	0.322	1341.	-8.2	4417.	26.8	1350.	7.53	22.1	0235
	0.70	3086.	0.335	1033.	-65.5	3236.	23.3	1282.	7.31	18.5	0236
	0.70	2194.	0.356	781.	-98.4	2283.	20.1	1221.	7.14	15.3	0237
	0.70	1477.	0.391	578.	-114.8	1528.	17.1	1165.	7.03	12.4	0238
	0.70	768.	0.495	380.	-114.1	790.	13.1	1140.	6.91	9.0	0239
CLIMB	0.75	6970.	0.309	2157.	174.8	7655.	34.0	1492.	8.28	29.9	0240
M.C.	0.75	6402.	0.310	1985.	123.2	6976.	32.4	1464.	8.11	28.1	0241
	0.75	5588.	0.312	1742.	57.2	6027.	30.1	1420.	7.89	25.7	0242
	0.75	4275.	0.318	1361.	-32.0	4540.	26.3	1345.	7.56	21.6	0243
	0.75	3176.	0.330	1048.	-87.4	3334.	22.8	1277.	7.33	18.0	0244
	0.75	2269.	0.350	794.	-119.3	2362.	19.7	1215.	7.16	14.9	0245
	0.75	1532.	0.383	586.	-133.5	1586.	16.8	1159.	7.04	12.1	0246
	0.75	798.	0.482	385.	-129.5	821.	12.8	1135.	6.91	8.8	0247
CLIMB	0.80	7114.	0.307	2185.	151.3	7832.	33.1	1490.	8.34	29.0	0248
M.C.	0.80	6538.	0.308	2012.	98.1	7138.	31.6	1461.	8.16	27.3	0249
	0.80	5725.	0.309	1768.	33.8	6187.	29.4	1417.	7.93	24.9	0250
	0.80	4394.	0.315	1383.	-55.0	4674.	25.7	1341.	7.59	21.0	0251
	0.80	3272.	0.325	1065.	-110.3	3439.	22.3	1272.	7.35	17.5	0252
	0.80	2350.	0.344	807.	-140.8	2448.	19.3	1210.	7.18	14.5	0253
	0.80	1587.	0.375	595.	-152.6	1643.	16.4	1154.	7.05	11.8	0254
	0.80	832.	0.468	390.	-145.3	856.	12.6	1130.	6.92	8.6	0255

DETROIT DIESEL ALLISON DIVISION | EDR 9777 | GENERAL MOTORS CORPORATION

PD370-42 TURBOPROP

ZERO BLEED | 100 PERCENT RECOVERY | ZERO POWER EXTRACTION

STD DAY

25000 FEET ALTITUDE

POWER	MACH	SHP	SFC	WFL	FN	ESHP	WCIN	TNOZ	PNOZ	RC	NO
INTER	0.40	4810.	0.325	1561.	265.5	5210.	37.3	1483.	6.43	34.6	[illegible]
M.C.	0.40	4734.	0.324	1535.	258.0	5121.	37.1	1472.	6.41	34.3	[illegible]
	0.40	4360.	0.323	1410.	221.6	4690.	36.0	1421.	6.32	32.5	[illegible]
	0.40	3393.	0.331	1122.	136.1	3600.	31.8	1347.	6.09	27.7	[illegible]
	0.40	2491.	0.346	862.	67.7	2611.	27.4	1281.	5.89	22.9	[illegible]
	0.40	1750.	0.371	649.	24.6	1820.	23.5	1221.	5.76	18.8	[illegible]
	0.40	1159.	0.413	479.	-4.3	1198.	19.9	1167.	5.67	15.2	[illegible]
	0.40	698.	0.488	341.	-21.4	719.	16.5	1119.	5.60	11.9	[illegible]
INTER	0.50	5223.	0.321	1674.	254.2	5696.	37.3	1498.	6.56	34.6	256
M.C.	0.50	4983.	0.320	1593.	225.8	5413.	36.7	1465.	6.49	33.6	257
	0.50	4563.	0.319	1455.	185.2	4925.	35.4	1415.	6.38	31.7	258
	0.50	3499.	0.326	1142.	58.8	3718.	30.9	1341.	6.12	26.6	259
	0.50	2583.	0.340	878.	35.6	2712.	26.7	1274.	5.92	22.1	260
	0.50	1824.	0.363	663.	-6.0	1898.	22.9	1214.	5.78	18.2	261
	0.50	1219.	0.401	489.	-31.1	1261.	19.4	1159.	5.68	14.7	262
	0.50	732.	0.473	346.	-44.5	754.	16.0	1112.	5.60	11.5	263
INTER	0.60	5557.	0.316	1755.	231.6	6095.	36.9	1492.	6.67	33.8	264
M.C.	0.60	5287.	0.314	1662.	204.0	5774.	36.2	1457.	6.59	32.7	265
	0.60	4775.	0.314	1501.	154.7	5172.	34.5	1409.	6.45	30.5	266
	0.60	3632.	0.321	1167.	62.1	3868.	29.9	1336.	6.15	25.5	267
	0.60	2697.	0.333	899.	1.0	2836.	25.9	1267.	5.95	21.2	268
	0.60	1917.	0.354	679.	-38.2	1997.	22.2	1206.	5.80	17.5	269
	0.60	1295.	0.388	502.	-56.7	1341.	18.9	1150.	5.69	14.2	270
	0.60	771.	0.456	352.	-68.9	795.	15.5	1106.	5.61	11.0	271
INTER	0.70	5934.	0.310	1842.	210.2	6554.	36.2	1483.	6.80	32.8	272
M.C.	0.70	5618.	0.309	1738.	177.1	6170.	35.4	1450.	6.70	31.6	273
	0.70	4967.	0.310	1535.	116.6	5399.	33.1	1404.	6.51	29.0	274
	0.70	3792.	0.316	1198.	23.8	4048.	28.7	1329.	6.20	24.2	275
	0.70	2833.	0.326	923.	-34.6	2985.	24.9	1259.	5.98	20.2	276
	0.70	2030.	0.344	698.	-71.1	2118.	21.5	1196.	5.82	16.7	277
	0.70	1385.	0.373	517.	-89.1	1435.	18.3	1139.	5.71	13.6	278
	0.70	811.	0.440	357.	-94.0	836.	14.8	1099.	5.62	10.4	279
INTER	0.75	6144.	0.308	1892.	200.0	6813.	35.9	1480.	6.88	32.2	280
M.C.	0.75	5774.	0.307	1772.	161.9	6361.	34.8	1447.	6.76	30.8	281
	0.75	5062.	0.308	1558.	95.3	5510.	32.3	1402.	6.54	28.1	282
	0.75	3884.	0.313	1214.	4.6	4152.	28.1	1325.	6.22	23.5	283
	0.75	2910.	0.322	937.	-52.7	3069.	24.4	1255.	6.00	19.7	284
	0.75	2095.	0.339	709.	-88.2	2187.	21.1	1191.	5.84	16.3	285
	0.75	1437.	0.366	526.	-104.3	1491.	18.0	1133.	5.72	13.3	286
	0.75	828.	0.433	359.	-107.4	854.	14.4	1097.	5.62	10.0	287
INTER	0.80	6338.	0.306	1936.	187.9	7055.	35.3	1476.	6.96	31.5	288
M.C.	0.80	5921.	0.305	1805.	144.5	6541.	34.0	1445.	6.81	30.0	289
	0.80	5173.	0.305	1579.	75.5	5641.	31.5	1399.	6.58	27.2	290
	0.80	3987.	0.309	1233.	-14.5	4268.	27.5	1321.	6.25	22.9	291
	0.80	2996.	0.318	952.	-71.6	3164.	23.9	1250.	6.02	19.1	292
	0.80	2163.	0.333	721.	-105.4	2261.	20.6	1186.	5.85	15.8	293
	0.80	1492.	0.358	534.	-120.9	1549.	17.7	1127.	5.73	12.9	294
	0.80	846.	0.426	360.	-120.7	873.	13.9	1094.	5.62	9.7	295

DETROIT DIESEL ALLISON DIVISION | EDR 9777 | GENERAL MOTORS CORPORATION

PD370-42 TURBOPROP

ZERO BLEED | 100 PERCENT RECOVERY | ZERO POWER EXTRACTION

STD DAY

30000 FEET ALTITUDE

POWER	MACH	SHP	SFC	WF	FN	ESHP	WCIN	TNOZ	PNOZ	RC	NO
CLIMB	0.50	4108.	0.318	1307.	201.2	4475.	37.3	1434.	5.24	34.6	0296
M.C.	0.50	4108.	0.318	1307.	201.2	4475.	37.3	1434.	5.24	34.6	0297
	0.50	3920.	0.317	1243.	182.5	4255.	36.7	1402.	5.19	33.6	0298
	0.50	3198.	0.319	1020.	115.6	3425.	33.4	1319.	5.01	29.4	0299
	0.50	2366.	0.330	782.	50.4	2497.	28.8	1250.	4.81	24.3	0300
	0.50	1689.	0.350	591.	8.4	1764.	24.7	1188.	4.68	20.0	0301
	0.50	1140.	0.382	435.	-17.3	1183.	20.9	1132.	4.58	16.1	0302
	0.50	714.	0.437	312.	-32.5	737.	17.4	1082.	4.50	12.8	0303
CLIMB	0.60	4516.	0.314	1417.	199.1	4964.	37.3	1450.	5.37	34.6	0304
M.C.	0.60	4494.	0.314	1411.	196.4	4937.	37.2	1447.	5.37	34.5	0305
	0.60	4160.	0.312	1298.	161.5	4539.	36.2	1395.	5.27	32.8	0306
	0.60	3304.	0.315	1040.	84.0	3546.	32.2	1314.	5.04	28.1	0307
	0.60	2462.	0.325	799.	21.6	2603.	27.8	1244.	4.83	23.3	0308
	0.60	1768.	0.342	605.	-17.8	1850.	23.9	1181.	4.69	19.2	0309
	0.60	1205.	0.370	446.	-41.1	1251.	20.3	1124.	4.59	15.5	0310
	0.60	762.	0.420	320.	-53.2	786.	17.0	1072.	4.51	12.3	0311
CLIMB	0.70	5035.	0.310	1563.	206.6	5600.	37.3	1474.	5.56	34.5	0312
M.C.	0.70	4811.	0.309	1485.	181.3	5324.	36.7	1439.	5.48	33.5	0313
	0.70	4421.	0.307	1357.	139.9	4852.	35.4	1387.	5.36	31.6	0314
	0.70	3438.	0.310	1065.	51.9	3699.	30.9	1308.	5.07	26.6	0315
	0.70	2580.	0.318	821.	-7.5	2734.	26.8	1237.	4.86	22.1	0316
	0.70	1867.	0.333	622.	-45.2	1957.	23.1	1172.	4.71	18.3	0317
	0.70	1284.	0.358	460.	-65.9	1335.	19.7	1114.	4.60	14.9	0318
	0.70	815.	0.403	328.	-75.4	842.	16.4	1063.	4.52	11.8	0319
CLIMB	0.75	5221.	0.308	1608.	201.5	5834.	37.0	1471.	5.63	34.0	0320
M.C.	0.75	4986.	0.306	1527.	174.5	5541.	36.3	1436.	5.55	33.0	0321
	0.75	4548.	0.304	1384.	128.0	5005.	34.8	1385.	5.41	30.9	0322
	0.75	3515.	0.307	1080.	36.5	3788.	30.2	1305.	5.10	25.9	0323
	0.75	2647.	0.315	833.	-22.7	2808.	26.3	1233.	4.88	21.6	0324
	0.75	1921.	0.328	631.	-59.6	2015.	22.6	1167.	4.73	17.8	0325
	0.75	1330.	0.351	467.	-78.8	1383.	19.3	1108.	4.61	14.5	0326
	0.75	842.	0.395	332.	-87.1	870.	16.1	1058.	4.53	11.5	0327
CLIMB	0.80	5419.	0.306	1657.	197.1	6086.	36.7	1467.	5.71	33.5	0328
M.C.	0.80	5171.	0.304	1570.	168.1	5773.	35.9	1433.	5.63	32.4	0329
	0.80	4664.	0.302	1409.	114.3	5148.	34.1	1382.	5.45	30.1	0330
	0.80	3602.	0.304	1096.	20.9	3889.	29.6	1302.	5.12	25.1	0331
	0.90	2718.	0.311	846.	-38.2	2888.	25.7	1229.	4.90	21.0	0332
	0.80	1981.	0.323	641.	-74.4	2080.	22.2	1162.	4.74	17.3	0333
	0.80	1379.	0.345	475.	-92.5	1435.	18.9	1103.	4.62	14.2	0334
	0.80	870.	0.386	336.	-98.9	899.	15.7	1054.	4.53	11.1	0335

DETROIT DIESEL ALLISON DIVISION	EDR 9777	GENERAL MOTORS CORPORATION
	PD370-42 TURBOPROP	
ZERO BLEED	100 PERCENT RECOVERY	ZERO POWER EXTRACTION
	STD DAY	
	35000 FEET ALTITUDE	

POWER	MACH	SHP	SFC	WF	FN	ESHP	WCIN	TNOZ	PNOZ	RC	NO
CLIMB	0.50	3193.	0.315	1007.	157.3	3474.	37.3	1369.	4.15	34.6	0336
M.C.	0.50	3193.	0.315	1007.	157.3	3474.	37.3	1369.	4.15	34.6	0337
	0.50	3193.	0.315	1007.	157.3	3474.	37.3	1369.	4.15	34.6	0338
	0.50	2833.	0.314	890.	122.5	3057.	35.7	1299.	4.06	32.1	0339
	0.50	2153.	0.322	693.	63.3	2288.	31.2	1227.	3.88	26.9	0340
	0.50	1550.	0.337	523.	20.7	1627.	26.7	1163.	3.75	22.0	0341
	0.50	1059.	0.364	386.	-5.7	1101.	22.6	1105.	3.66	17.8	0342
	0.50	675.	0.410	277.	-21.5	698.	18.8	1054.	3.59	14.1	0343
CLIMB	0.60	3517.	0.311	1095.	156.2	3862.	37.3	1386.	4.26	34.6	0344
M.C.	0.60	3517.	0.311	1095.	156.2	3862.	37.3	1386.	4.26	34.6	0345
	0.60	3506.	0.311	1092.	154.7	3848.	37.3	1384.	4.25	34.5	0346
	0.60	2973.	0.309	919.	101.1	3220.	34.8	1293.	4.10	31.0	0347
	0.60	2234.	0.317	708.	39.2	2378.	30.1	1222.	3.91	25.7	0348
	0.60	1620.	0.331	535.	-1.4	1702.	25.8	1155.	3.77	21.1	0349
	0.60	1114.	0.355	395.	-25.8	1160.	21.9	1097.	3.67	17.1	0350
	0.60	718.	0.396	284.	-39.4	742.	18.3	1045.	3.60	13.6	0351
CLIMB	0.70	3923.	0.308	1207.	162.0	4358.	37.3	1409.	4.40	34.6	0352
M.C.	0.70	3923.	0.308	1207.	162.0	4358.	37.3	1409.	4.40	34.6	0353
	0.70	3756.	0.306	1150.	143.0	4153.	36.7	1377.	4.34	33.6	0354
	0.70	3102.	0.305	946.	77.1	3372.	33.5	1288.	4.14	29.5	0355
	0.70	2331.	0.311	726.	15.0	2487.	28.9	1215.	3.94	24.4	0356
	0.70	1704.	0.323	550.	-23.9	1794.	24.9	1147.	3.79	20.1	0357
	0.70	1182.	0.344	407.	-46.3	1233.	21.2	1088.	3.68	16.4	0358
	0.70	770.	0.380	293.	-57.9	797.	17.8	1035.	3.61	13.0	0359
CLIMB	0.75	4159.	0.306	1274.	168.6	4654.	37.3	1423.	4.49	34.6	0360
M.C.	0.75	4159.	0.306	1274.	168.6	4654.	37.3	1423.	4.49	34.6	0361
	0.75	3895.	0.304	1183.	137.5	4325.	36.4	1374.	4.40	33.1	0362
	0.75	3164.	0.303	957.	64.2	3444.	32.7	1286.	4.16	28.6	0363
	0.75	2385.	0.309	736.	2.6	2548.	28.3	1212.	3.95	23.7	0364
	0.75	1750.	0.319	558.	-35.5	1845.	24.4	1143.	3.80	19.6	0365
	0.75	1221.	0.338	413.	-56.9	1275.	20.8	1083.	3.69	16.0	0366
	0.75	799.	0.372	297.	-67.9	828.	17.4	1029.	3.61	12.7	0367
CLIMB	0.80	4417.	0.305	1347.	178.0	4983.	37.3	1437.	4.59	34.6	0368
M.C.	0.80	4417.	0.305	1347.	178.0	4983.	37.3	1437.	4.59	34.6	0369
	0.80	4040.	0.301	1216.	132.3	4505.	36.0	1370.	4.46	32.5	0370
	0.80	3229.	0.300	970.	50.4	3521.	31.9	1283.	4.18	27.7	0371
	0.80	2447.	0.305	747.	-9.8	2619.	27.7	1208.	3.97	23.1	0372
	0.80	1803.	0.314	567.	-47.6	1902.	23.9	1139.	3.81	19.1	0373
	0.80	1263.	0.332	420.	-69.2	1318.	20.4	1078.	3.70	15.5	0374
	0.90	830.	0.364	302.	-78.0	861.	17.1	1024.	3.62	12.4	0375

EDR 9777

DETROIT DIESEL ALLISON DIVISION | PD370-42 TURBOPROP | GENERAL MOTORS CORPORATION

ZERO BLEED | 100 PERCENT RECOVERY | ZERO POWER EXTRACTION

STD DAY

40000 FEET ALTITUDE

POWER	MACH	SHP	SFC	WF	FN	ESHP	WCIN	TNOZ	PNOZ	RC	NO
CLIMB	0.50	2501.	0.315	788.	123.1	2720.	37.3	1355.	3.26	34.6	0376
M.C.	0.50	2501.	0.315	788.	123.1	2720.	37.3	1355.	3.26	34.6	0377
	0.50	2501.	0.315	788.	123.1	2720.	37.3	1355.	3.26	34.6	0378
	0.50	2268.	0.313	711.	100.5	2450.	36.0	1296.	3.20	32.6	0379
	0.50	1746.	0.320	559.	54.4	1858.	31.7	1222.	3.07	27.5	0380
	0.50	1259.	0.335	422.	19.0	1323.	27.1	1157.	2.96	22.5	0381
	0.50	862.	0.361	311.	-2.9	898.	22.9	1099.	2.88	18.2	0382
	0.50	551.	0.405	223.	-16.2	570.	19.1	1048.	2.83	14.4	0383
CLIMB	0.60	2754.	0.311	856.	122.4	3023.	37.3	1372.	3.35	34.6	0384
M.C.	0.60	2754.	0.311	856.	122.4	3023.	37.3	1372.	3.35	34.6	0385
	0.60	2754.	0.311	856.	122.4	3023.	37.3	1372.	3.35	34.6	0386
	0.60	2390.	0.309	738.	84.8	2593.	35.3	1290.	3.24	31.6	0387
	0.60	1811.	0.316	571.	35.3	1931.	30.6	1217.	3.09	26.3	0388
	0.60	1315.	0.328	432.	1.7	1384.	26.3	1150.	2.97	21.6	0389
	0.60	907.	0.351	319.	-18.6	945.	22.3	1091.	2.89	17.5	0390
	0.60	586.	0.391	229.	-30.2	606.	18.6	1039.	2.83	13.9	0391
CLIMB	0.70	3071.	0.307	943.	126.6	3410.	37.3	1394.	3.46	34.6	0392
M.C.	0.70	3071.	0.307	943.	126.6	3410.	37.3	1394.	3.46	34.6	0393
	0.70	2994.	0.306	917.	117.9	3316.	37.0	1375.	3.43	34.0	0394
	0.70	2511.	0.304	763.	67.8	2735.	34.1	1284.	3.28	30.2	0395
	0.70	1888.	0.310	585.	16.1	2018.	29.4	1211.	3.11	25.0	0396
	0.70	1382.	0.321	443.	-16.3	1457.	25.3	1142.	2.99	20.6	0397
	0.70	961.	0.341	328.	-35.2	1003.	21.5	1082.	2.90	16.7	0398
	0.70	628.	0.376	236.	-45.1	650.	18.1	1029.	2.84	13.3	0399
CLIMB	0.75	3258.	0.306	996.	132.1	3644.	37.3	1408.	3.53	34.6	0400
M.C.	0.75	3258.	0.306	996.	132.1	3644.	37.3	1408.	3.53	34.6	0401
	0.75	3103.	0.304	942.	113.8	3451.	36.6	1371.	3.48	33.5	0402
	0.75	2562.	0.302	773.	57.9	2796.	33.4	1282.	3.30	29.3	0403
	0.75	1932.	0.307	593.	6.4	2068.	28.8	1207.	3.12	24.3	0404
	0.75	1420.	0.317	450.	-25.6	1498.	24.8	1138.	3.00	20.0	0405
	0.75	992.	0.335	333.	-44.3	1036.	21.1	1077.	2.91	16.3	0406
	0.75	652.	0.368	240.	-53.0	675.	17.7	1023.	2.85	13.0	0407
CLIMB	0.80	3462.	0.304	1054.	139.6	3904.	37.3	1423.	3.61	34.6	0408
M.C.	0.80	3462.	0.304	1054.	139.6	3904.	37.3	1423.	3.61	34.6	0409
	0.80	3223.	0.301	971.	110.2	3601.	36.3	1368.	3.52	32.9	0410
	0.80	2613.	0.299	782.	47.2	2856.	32.5	1280.	3.32	28.4	0411
	0.80	1979.	0.304	602.	-3.6	2122.	28.1	1204.	3.14	23.6	0412
	0.80	1461.	0.313	457.	-35.2	1543.	24.3	1134.	3.01	19.5	0413
	0.80	1026.	0.330	338.	-53.3	1072.	20.7	1072.	2.92	15.9	0414
	0.80	677.	0.360	244.	-61.1	702.	17.4	1018.	2.85	12.7	0415

DETROIT DIESEL ALLISON DIVISION | EDR 9777 | GENERAL MOTORS CORPORATION

PD370-42 TURBOPROP

ZERO BLEED | 100 PERCENT RECOVERY | ZERO POWER EXTRACTION

STD DAY

45000 FEET ALTITUDE

POWER	MACH	SHP	SFC	WF	FN	ESHP	WCIN	TNOZ	PNOZ	RC	NO
CLIMB	0.50	1965.	0.315	619.	96.9	2138.	37.3	1354.	2.56	34.6	0416
M.C.	0.50	1965.	0.315	619.	96.9	2138.	37.3	1354.	2.56	34.6	0417
	0.50	1965.	0.315	619.	96.9	2138.	37.3	1354.	2.56	34.6	0418
	0.50	1783.	0.313	559.	79.1	1927.	36.0	1296.	2.52	32.6	0419
	0.50	1373.	0.320	440.	42.9	1462.	31.7	1222.	2.41	27.5	0420
	0.50	990.	0.335	332.	15.0	1040.	27.1	1157.	2.33	22.5	0421
	0.50	678.	0.361	245.	-2.3	706.	22.9	1100.	2.27	18.2	0422
	0.50	433.	0.405	175.	-12.8	449.	19.1	1048.	2.22	14.4	0423
CLIMB	0.60	2164.	0.311	672.	96.3	2376.	37.3	1371.	2.63	34.6	0424
M.C.	0.60	2164.	0.311	672.	96.3	2376.	37.3	1371.	2.63	34.6	0425
	0.60	2164.	0.311	672.	96.3	2376.	37.3	1371.	2.63	34.6	0426
	0.60	1880.	0.309	580.	66.7	2039.	35.3	1290.	2.55	31.6	0427
	0.60	1424.	0.315	449.	28.0	1518.	30.6	1217.	2.43	26.3	0428
	0.60	1034.	0.328	339.	1.3	1088.	26.3	1150.	2.34	21.6	0429
	0.60	713.	0.351	251.	-14.8	743.	22.3	1091.	2.27	17.5	0430
	0.60	461.	0.391	180.	-23.6	477.	18.6	1039.	2.23	13.9	0431
CLIMB	0.70	2416.	0.307	742.	99.6	2682.	37.3	1394.	2.72	34.6	0432
M.C.	0.70	2416.	0.307	742.	99.6	2682.	37.3	1394.	2.72	34.6	0433
	0.70	2354.	0.306	721.	92.8	2608.	37.0	1375.	2.70	34.0	0434
	0.70	1975.	0.304	600.	53.5	2152.	34.1	1284.	2.58	30.2	0435
	0.70	1485.	0.310	460.	12.9	1587.	29.4	1211.	2.45	25.0	0436
	0.70	1087.	0.321	349.	-12.9	1146.	25.3	1142.	2.35	20.6	0437
	0.70	756.	0.341	258.	-27.6	789.	21.5	1032.	2.28	16.7	0438
	0.70	494.	0.376	186.	-35.4	512.	18.1	[illegible]	2.24	13.3	0439
CLIMB	0.75	2562.	0.306	783.	103.9	2866.	37.3	1408.	2.78	34.6	0440
M.C.	0.75	2562.	0.306	783.	103.9	2866.	37.3	1408.	2.78	34.6	0441
	0.75	2441.	0.304	742.	89.5	2715.	36.6	1372.	2.73	33.5	0442
	0.75	2014.	0.302	607.	45.3	2198.	33.4	1282.	2.59	29.3	0443
	0.75	1519.	0.307	467.	5.0	1626.	28.8	1207.	2.46	24.3	0444
	0.75	1117.	0.317	354.	-20.2	1178.	24.8	1138.	2.36	20.0	0445
	0.75	780.	0.335	262.	-34.9	815.	21.1	1077.	2.29	16.3	0446
	0.75	512.	0.368	188.	-41.6	531.	17.7	1023.	2.24	13.0	0447
CLIMB	0.80	2721.	0.304	828.	109.7	3069.	37.3	1423.	2.84	34.6	0448
M.C.	0.80	2721.	0.304	828.	109.7	3069.	37.3	1423.	2.84	34.6	0449
	0.80	2534.	0.301	764.	86.7	2831.	36.3	1368.	2.77	32.9	0450
	0.80	2055.	0.299	615.	37.3	2247.	32.5	1280.	2.61	28.4	0451
	0.80	1556.	0.304	474.	-2.6	1669.	28.1	1205.	2.47	23.6	0452
	0.80	1149.	0.313	359.	-27.6	1213.	24.3	1134.	2.36	19.5	0453
	0.80	807.	0.330	266.	-41.9	843.	20.7	1072.	2.29	15.9	0454
	0.80	532.	0.360	192.	-48.0	552.	17.4	1018.	2.24	12.7	0455

PD370-42 TURBOPROP

SENSITIVITY DATA FOR BLEED, INLET RECOVERY, AND EXHAUST DUCT LOSS

0 FEET ALTITUDE

POWER	MACH	PER PCT INLET REC DEL SHP	PER PCT INLET REC DEL FN	PER PCT BLEED DEL SHP	PER PCT BLEED DEL WF	PER PCT BLEED DEL FN	K	NO
CLIMB	0.20	121.0	10.4	170.9	37.1	16.9	8.12	A
M.C.	0.20	113.8	9.2	160.0	34.2	15.0	9.34	B
	0.20	101.2	7.7	132.4	27.7	11.9	11.75	C
	0.20	82.1	5.9	92.4	18.9	8.1	18.36	D
	0.20	62.3	3.5	83.2	17.8	6.0	31.25	E
	0.20	47.7	2.6	71.8	16.2	4.7	59.01	F
	0.20	104.8	3.9	44.7	11.4	2.4	278.20	G
	0.20	-10.1	-0.3	17.2	6.8	1.3	-370.20	H
CLIMB	0.30	123.8	9.5	174.6	37.6	16.4	10.24	I
M.C.	0.30	114.8	8.3	160.5	34.1	14.8	12.11	J
	0.30	102.5	6.6	132.2	27.6	11.1	16.14	K
	0.30	82.7	4.7	93.0	18.8	7.5	29.32	L
	0.30	63.5	2.8	86.4	18.3	5.9	69.85	M
	0.30	48.7	1.7	74.1	16.5	4.1	714.69	N
	0.30	106.5	2.1	46.0	11.6	2.5	-124.75	O
	0.30	-11.7	-0.2	-7.7	-5.6	0.9	-89.71	P
CLIMB	0.40	125.3	8.5	177.9	37.7	16.5	13.74	1
M.C.	0.40	117.2	7.5	160.5	33.6	14.4	17.14	2
	0.40	104.6	6.5	132.0	27.0	11.4	25.29	3
	0.40	83.9	3.7	95.1	19.0	7.9	71.35	4
	0.40	65.1	2.1	91.1	19.0	5.9	-289.16	5
	0.40	50.2	0.6	77.8	17.1	3.6	-69.24	6
	0.40	34.8	0.0	47.1	11.6	1.5	-48.61	7
	0.40	-51.8	0.6	-44.2	-19.3	1.9	-52.35	8
CLIMB	0.50	128.9	7.9	181.0	38.0	16.7	20.76	9
M.C.	0.50	119.6	7.2	159.5	32.9	14.3	29.03	10
	0.50	107.7	5.3	133.3	27.1	11.4	59.59	11
	0.50	86.3	3.1	97.9	19.3	7.8	-141.69	12
	0.50	67.1	1.5	97.2	20.1	5.9	-46.15	13
	0.50	52.8	0.2	82.3	17.7	3.4	-32.51	14
	0.50	36.2	-0.9	49.0	11.6	1.6	-30.11	15
	0.50	-56.2	1.3	-47.4	-19.9	3.4	-35.36	16
CLIMB	0.60	132.4	7.1	179.5	37.2	16.5	43.92	17
M.C.	0.60	123.1	6.2	160.5	32.8	14.7	95.53	18
	0.60	111.1	4.4	132.8	26.3	11.4	-152.30	19
	0.60	88.9	2.3	103.3	20.1	8.2	-35.18	20
	0.60	70.0	0.9	104.8	21.3	6.1	-24.47	21
	0.60	56.1	-0.2	88.0	18.6	3.5	-21.18	22
	0.60	37.4	-0.8	51.6	11.7	2.0	-21.19	23
	0.60	30.8	-2.0	40.4	10.0	0.3	-22.40	24
CLIMB	0.70	136.7	6.5	179.7	36.4	17.0	-381.99	25
M.C.	0.70	128.2	5.4	161.6	32.3	14.8	-67.66	26
	0.70	112.2	3.2	131.4	25.5	11.7	-32.42	27
	0.70	92.9	1.6	115.5	22.4	8.6	-19.84	28
	0.70	73.1	0.0	113.0	22.5	5.4	-16.11	29
	0.70	60.0	-1.0	94.0	19.4	2.7	-15.21	30
	0.70	38.5	-2.2	53.4	11.7	0.2	-15.17	31
	0.70	33.5	-2.2	43.5	10.4	0.1	-17.60	32
CLIMB	0.75	138.8	6.2	179.0	36.5	17.1	-63.78	33
M.C.	0.75	130.4	5.0	161.1	31.9	15.1	-36.11	34
	0.75	116.1	3.2	130.6	25.1	11.8	-22.93	35
	0.75	94.0	0.8	123.2	23.8	8.7	-15.87	36
	0.75	74.9	-0.3	118.5	23.3	5.8	-13.67	37
	0.75	61.6	-1.4	97.2	19.9	2.5	-13.32	38
	0.75	39.9	-2.4	55.4	11.9	0.6	-13.78	39
	0.75	34.4	-2.6	44.8	10.5	-0.0	-15.74	40
CLIMB	0.80	141.0	5.9	181.4	36.6	17.6	-34.55	41
M.C.	0.80	132.8	4.7	161.0	31.5	15.4	-24.43	42
	0.80	119.9	3.2	130.2	24.4	12.0	-17.66	43
	0.80	96.7	0.9	130.8	25.1	9.0	-13.30	44
	0.80	77.0	-0.6	123.5	24.0	5.5	-11.82	45
	0.80	62.1	-2.1	97.8	19.7	2.2	-11.72	46
	0.80	40.9	-2.7	57.4	12.0	0.4	-12.43	47
	0.80	35.8	-2.8	46.7	10.6	-0.2	-14.21	48

DETROIT DIESEL ALLISON DIVISION — EDR 9777 — GENERAL MOTORS CORPORATION

PD370-42 TURBOPROP

SENSITIVITY DATA FOR BLEED, INLET RECOVERY, AND EXHAUST DUCT LOSS

5000 FEET ALTITUDE

		PER PCT INLET REC		PER PCT BLEED				
POWER	MACH	DEL SHP	DEL FN	DEL SHP	DEL WF	DEL FN	K	NO
CLIMB	0.20	110.2	9.9	155.1	33.4	15.9	6.77	0049
M.C.	0.20	102.3	9.3	142.7	30.6	14.2	7.78	0050
	0.20	91.9	7.6	127.8	26.9	12.6	9.70	0051
	0.20	73.5	5.3	88.2	17.8	7.9	15.14	0052
	0.20	57.0	3.5	67.2	13.8	5.2	25.01	0053
	0.20	43.0	2.3	63.2	13.8	4.3	45.31	0054
	0.20	36.4	1.7	54.4	13.3	3.2	119.74	0055
	0.20	21.8	0.6	26.1	7.5	1.5	-606.48	0056
CLIMB	0.30	110.5	9.4	155.5	33.5	15.8	8.26	0057
M.C.	0.30	103.4	8.1	145.7	30.7	14.6	9.71	0058
	0.30	93.1	6.7	128.0	26.8	11.7	12.75	0059
	0.30	74.4	4.8	87.8	17.6	7.5	22.44	0060
	0.30	58.0	2.9	70.3	14.3	5.3	46.82	0061
	0.30	43.7	1.7	65.1	14.1	4.2	171.34	0062
	0.30	36.6	0.9	54.3	13.1	2.6	-198.94	0063
	0.30	21.9	0.4	27.2	7.6	1.0	-87.13	0064
CLIMB	0.40	112.9	8.5	159.8	33.6	15.9	10.57	0065
M.C.	0.40	105.4	7.5	148.8	31.3	14.6	12.84	0066
	0.40	94.0	6.4	126.6	26.1	11.9	18.22	0067
	0.40	77.1	3.8	88.8	17.9	6.7	43.24	0068
	0.40	59.1	1.9	74.8	15.2	5.4	395.88	0069
	0.40	45.3	1.4	68.1	14.5	4.1	-96.36	0070
	0.40	37.0	0.2	52.2	12.3	2.2	-52.97	0071
	0.40	23.2	-0.1	28.4	7.7	0.7	-46.04	0072
CLIMB	0.50	115.4	7.9	163.2	34.8	16.1	14.56	0073
M.C.	0.50	108.1	6.9	152.5	32.2	14.4	18.97	0074
	0.50	96.2	6.0	127.1	26.2	12.0	32.11	0075
	0.50	78.4	3.2	89.6	17.6	7.6	515.88	0076
	0.50	61.0	1.6	80.3	16.1	5.4	-58.54	0077
	0.50	46.6	0.4	71.6	15.0	3.6	-36.03	0078
	0.50	34.6	-0.4	49.0	11.1	1.6	-30.30	0079
	0.50	23.8	-1.4	29.6	7.7	0.1	-30.31	0080
CLIMB	0.60	118.5	7.3	168.4	35.1	16.4	23.30	0081
M.C.	0.60	111.5	6.1	153.4	31.8	14.3	36.99	0082
	0.60	99.3	4.7	126.2	25.7	11.7	149.84	0083
	0.60	80.8	2.6	91.2	17.5	8.0	-50.04	0084
	0.60	63.2	1.0	87.5	17.4	5.5	-26.85	0085
	0.60	49.4	0.4	76.8	15.7	3.6	-21.93	0086
	0.60	34.9	-0.9	50.5	11.1	1.6	-21.06	0087
	0.60	24.7	-1.6	30.8	7.8	-0.3	-23.06	0088

PD370-42 TURBOPROP

SENSITIVITY DATA FOR BLEED, INLET RECOVERY, AND EXHAUST DUCT LOSS

10000 FEET ALTITUDE

		PER PCT INLET REC		PER PCT BLEED				
POWER	MACH	DEL SHP	DEL FN	DEL SHP	DEL WF	DEL FN	K	NO
CLIMB	0.20	97.1	9.5	136.6	29.5	15.0	5.66	0089
M.C.	0.20	92.8	9.0	131.6	28.4	14.0	6.40	0090
	0.20	81.4	7.1	114.0	24.5	11.7	8.04	0091
	0.20	66.3	5.0	85.7	17.7	7.6	12.35	0092
	0.20	51.7	3.2	57.0	11.4	4.8	20.02	0093
	0.20	39.1	2.2	54.2	11.5	4.0	34.98	0094
	0.20	29.9	1.5	45.8	10.4	3.0	74.05	0095
	0.20	18.8	0.8	24.4	6.5	1.8	955.49	0096
CLIMB	0.30	99.4	9.0	142.0	30.9	15.1	6.70	0097
M.C.	0.30	93.5	8.1	131.3	28.3	13.6	7.79	0098
	0.30	83.1	6.5	117.0	24.7	11.4	10.09	0099
	0.30	67.4	4.7	85.7	17.4	7.8	17.18	0100
	0.30	52.7	2.9	58.3	11.5	4.9	32.97	0101
	0.30	39.8	1.7	56.1	11.8	3.8	87.21	0102
	0.30	30.7	1.0	47.3	10.7	2.7	-977.05	0103
	0.30	19.3	0.4	24.8	6.5	1.7	-101.06	0104
CLIMB	0.40	101.6	8.6	146.6	31.6	15.6	8.17	0105
M.C.	0.40	94.6	7.5	132.2	28.2	13.6	9.85	0106
	0.40	84.5	5.9	119.6	25.0	11.4	13.49	0107
	0.40	68.4	4.2	85.3	17.0	8.1	27.76	0108
	0.40	54.0	2.4	60.4	11.8	5.0	93.59	0109
	0.40	41.1	1.5	59.0	12.3	3.9	-175.37	0110
	0.40	31.9	0.6	49.4	11.0	2.4	-62.14	0111
	0.40	20.4	-0.4	25.9	6.6	1.1	-45.44	0112
CLIMB	0.50	103.9	8.2	146.7	31.4	15.8	10.47	0113
M.C.	0.50	97.1	7.1	136.1	28.7	13.7	13.29	0114
	0.50	87.3	5.6	122.3	25.1	11.6	20.31	0115
	0.50	69.9	4.0	86.0	16.9	8.1	74.31	0116
	0.50	55.2	1.8	63.6	12.3	5.0	-97.64	0117
	0.50	42.4	0.9	62.6	12.8	3.8	-42.16	0118
	0.50	33.8	0.2	52.3	11.5	2.1	-31.88	0119
	0.50	20.0	-1.0	26.3	6.5	0.7	-27.85	0120
CLIMB	0.60	105.7	7.6	150.0	31.4	16.0	14.70	0121
M.C.	0.60	99.4	6.5	140.4	29.2	14.3	20.30	0122
	0.60	88.7	4.9	120.5	24.7	11.4	42.47	0123
	0.60	71.8	3.5	84.6	16.4	7.4	-100.69	0124
	0.60	57.2	1.2	69.6	13.4	5.2	-31.75	0125
	0.60	44.0	0.3	66.8	13.4	3.7	-23.28	0126
	0.60	35.4	-0.4	55.2	11.9	1.7	-20.88	0127
	0.60	21.4	-1.7	28.6	6.8	0.1	-20.04	0128
CLIMB	0.70	108.0	7.0	154.7	32.5	16.6	24.44	0129
M.C.	0.70	102.0	6.0	144.5	29.9	14.6	44.92	0130
	0.70	91.8	4.5	121.3	24.7	11.6	-459.25	0131
	0.70	77.5	2.6	88.3	16.7	8.0	-29.38	0132
	0.70	59.4	0.8	78.3	15.0	5.6	-18.60	0133
	0.70	46.2	-0.1	72.0	14.1	3.7	-15.75	0134
	0.70	36.9	-0.9	54.5	11.4	1.4	-15.43	0135
	0.70	22.8	-1.7	31.0	7.1	-0.4	-15.60	0136
CLIMB	0.75	109.2	6.7	159.4	33.1	17.1	36.11	0137
M.C.	0.75	103.8	5.8	144.0	29.7	14.7	114.26	0138
	0.75	93.4	4.3	121.0	24.5	11.9	-65.47	0139
	0.75	76.9	2.3	86.5	16.2	8.1	-21.32	0140
	0.75	60.7	0.5	82.8	15.8	5.7	-15.26	0141
	0.75	47.5	-0.3	74.7	14.5	3.6	-13.50	0142
	0.75	36.5	-1.1	52.4	10.7	1.5	-13.62	0143
	0.75	23.9	-2.0	32.1	7.1	-0.5	-14.22	0144
CLIMB	0.80	115.4	7.2	162.7	33.9	17.6	68.69	0145
M.C.	0.80	105.5	5.7	143.0	29.3	14.8	-200.21	0146
	0.80	96.3	4.1	121.4	24.1	12.0	-34.85	0147
	0.80	77.2	1.9	81.3	16.1	8.4	-16.67	0148
	0.80	62.3	0.4	87.7	16.6	5.9	-12.94	0149
	0.80	48.8	-0.6	77.8	14.9	3.6	-11.72	0150
	0.80	35.6	-1.3	52.4	10.5	1.4	-12.03	0151
	0.80	24.2	-2.2	33.0	7.2	-0.3	-13.26	0152

DETROIT DIESEL ALLISON DIVISION — EDR 9777 — GENERAL MOTORS CORPORATION

PD370-42 TURBOPROP

SENSITIVITY DATA FOR BLEED, INLET RECOVERY, AND EXHAUST DUCT LOSS

15000 FEET ALTITUDE

POWER	MACH	PER PCT INLET REC DEC SHP	PER PCT INLET REC DEC FN	PER PCT BLEED DEC SHP	PER PCT BLEED DEC NF	PER PCT BLEED DEC FN	K	NO
CLIMB	0.30	81.5	7.6	114.5	24.2	12.8	6.35	0153
M.C.	0.30	74.5	6.5	105.5	22.4	11.0	8.01	0154
	0.30	59.4	4.3	78.5	16.4	7.2	13.32	0155
	0.30	47.6	3.2	53.7	10.6	4.4	24.46	0156
	0.30	36.3	1.8	46.1	9.3	3.5	54.67	0157
	0.30	26.6	1.0	40.4	8.8	2.6	327.63	0158
	0.30	18.3	0.6	24.9	6.1	1.2	-135.12	0159
CLIMB	0.40	87.8	8.1	116.9	24.9	13.8	6.62	0160
M.C.	0.40	84.0	7.2	121.2	26.2	13.2	7.62	0161
	0.40	75.7	5.8	106.5	22.4	10.8	10.25	0162
	0.40	61.0	3.9	81.0	16.5	7.4	19.40	0163
	0.40	49.6	2.6	55.5	10.8	4.9	48.51	0164
	0.40	37.1	1.4	48.6	9.8	3.4	-5522.4	0165
	0.40	27.5	0.6	42.3	9.0	2.4	-76.98	0166
	0.40	18.6	0.1	25.8	6.2	1.2	-50.34	0167
CLIMB	0.50	90.5	7.8	128.1	27.7	14.9	7.89	0168
M.C.	0.50	86.4	7.0	123.9	26.4	13.7	9.56	0169
	0.50	77.7	5.7	109.0	22.7	11.2	13.90	0170
	0.50	62.6	3.5	81.8	16.4	7.4	35.95	0171
	0.50	50.0	2.0	55.2	10.5	4.9	-810.04	0172
	0.50	38.2	0.9	51.9	10.3	3.4	-51.47	0173
	0.50	28.6	0.2	44.8	9.4	2.2	-33.52	0174
	0.50	19.1	-0.7	26.7	6.2	0.7	-29.15	0175
CLIMB	0.60	93.6	7.4	137.0	29.7	15.8	9.92	0176
M.C.	0.60	88.0	6.5	123.3	26.2	13.6	13.09	0177
	0.60	78.9	5.1	112.2	23.1	11.4	21.93	0178
	0.60	64.4	3.0	82.2	16.2	7.6	277.51	0179
	0.60	51.6	1.6	57.1	10.7	5.0	-43.22	0180
	0.60	39.6	0.5	56.2	11.0	3.5	-25.49	0181
	0.60	30.2	-0.3	47.5	9.7	1.8	-20.72	0182
	0.60	19.9	-0.8	27.9	6.2	0.6	-20.74	0183
CLIMB	0.70	96.1	7.3	136.4	29.1	15.7	13.85	0184
M.C.	0.70	90.6	6.2	128.2	26.9	14.1	20.24	0185
	0.70	81.6	4.7	114.6	23.4	11.6	53.19	0186
	0.70	66.9	2.6	82.6	16.0	7.7	-46.06	0187
	0.70	53.4	1.2	60.9	11.3	5.2	-21.35	0188
	0.70	41.2	0.2	61.0	11.8	3.6	-16.60	0189
	0.70	31.7	-0.9	50.7	10.1	1.6	-14.88	0190
	0.70	20.8	-0.9	29.4	6.3	0.9	-15.74	0191
CLIMB	0.75	97.8	7.4	138.8	29.2	16.4	16.94	0192
M.C.	0.75	93.8	6.3	132.9	27.7	14.8	27.45	0193
	0.75	83.0	4.4	113.7	23.0	11.7	192.62	0194
	0.75	67.9	2.6	82.6	15.9	8.0	-29.07	0195
	0.75	54.4	0.9	63.5	11.8	5.1	-16.82	0196
	0.75	42.0	-0.1	63.7	12.2	3.7	-14.01	0197
	0.75	33.5	-0.9	52.8	10.4	1.5	-13.05	0198
	0.75	20.5	-1.0	29.2	6.2	0.5	-13.77	0199
CLIMB	0.80	98.6	7.1	141.3	29.7	16.9	22.35	0200
M.C.	0.80	93.2	6.0	132.9	27.7	14.8	45.97	0201
	0.80	84.1	4.4	113.8	23.1	12.0	-120.46	0202
	0.80	69.8	2.3	80.1	15.4	7.9	-20.94	0203
	0.80	55.2	0.5	68.1	12.6	5.3	-13.89	0204
	0.80	43.1	-0.3	66.4	12.6	3.4	-12.00	0205
	0.80	34.1	-1.2	54.4	10.6	1.3	-11.45	0206
	0.80	21.8	-1.3	31.0	6.4	0.3	-12.21	0207

PD370-42 TURBOPROP

SENSITIVITY DATA FOR BLEED, INLET RECOVERY, AND EXHAUST DUCT LOSS

20000 FEET ALTITUDE

		PER PCT INLET REC		PER PCT BLEED				
POWER	MACH	DEL SHP	DEL FN	DEL SHP	DEL WF	DEL FN	K	NO
CLIMB	0.40	74.2	7.3	85.4	18.1	10.9	5.73	0208
M.C.	0.40	71.3	6.9	89.7	18.9	11.0	6.30	0209
	0.40	66.9	5.9	98.4	21.0	10.9	7.76	0210
	0.40	54.8	3.9	75.8	15.7	7.4	13.97	0211
	0.40	43.9	2.5	53.4	10.4	5.0	30.76	0212
	0.40	33.6	1.5	38.2	7.4	3.1	136.50	0213
	0.40	24.8	0.6	36.8	7.6	2.2	-110.67	0214
	0.40	20.4	0.3	30.7	7.0	1.3	-55.41	0215
CLIMB	0.50	77.3	7.3	93.3	19.8	12.1	6.48	0216
M.C.	0.50	74.4	6.8	100.2	21.4	12.0	7.35	0217
	0.50	69.0	5.6	99.3	21.0	11.0	9.83	0218
	0.50	55.7	3.5	77.3	15.7	7.4	21.58	0219
	0.50	44.5	2.2	52.6	10.1	4.9	99.54	0220
	0.50	34.1	1.1	40.5	7.8	3.1	-77.94	0221
	0.50	25.7	0.4	38.8	7.9	2.0	-36.98	0222
	0.50	20.0	-0.1	28.9	6.4	1.0	-30.76	0223
CLIMB	0.60	81.1	7.4	108.2	23.1	13.8	7.44	0224
M.C.	0.60	77.0	6.5	111.0	23.8	13.2	8.92	0225
	0.60	69.9	5.2	99.2	20.6	11.1	13.56	0226
	0.60	57.1	3.2	77.2	15.5	7.4	47.70	0227
	0.60	46.0	1.9	53.0	10.1	4.8	-76.10	0228
	0.60	35.5	0.8	44.6	8.6	3.2	-29.52	0229
	0.60	27.0	0.3	41.7	8.3	2.3	-22.25	0230
	0.60	18.7	-0.4	27.1	5.8	0.9	-20.81	0231
CLIMB	0.70	84.6	7.6	121.0	26.5	15.5	8.88	0232
M.C.	0.70	79.9	6.5	114.4	24.7	13.8	11.82	0233
	0.70	72.0	4.9	101.0	21.2	11.3	21.74	0234
	0.70	59.0	2.9	77.8	15.4	7.6	-211.82	0235
	0.70	47.6	1.4	52.9	9.8	5.0	-26.68	0236
	0.70	36.9	0.5	49.7	9.4	3.5	-17.88	0237
	0.70	28.3	0.0	44.5	8.6	2.1	-15.41	0238
	0.70	19.4	-0.7	28.5	5.9	0.8	-15.56	0239
CLIMB	0.75	85.4	7.3	125.7	27.6	16.1	10.02	0240
M.C.	0.75	80.9	6.4	114.6	24.6	14.0	14.21	0241
	0.75	73.6	4.9	104.9	21.6	11.7	30.53	0242
	0.75	60.4	2.6	77.9	15.1	7.7	-54.63	0243
	0.75	48.8	1.3	54.0	9.8	5.2	-20.00	0244
	0.75	37.7	0.2	52.3	9.8	3.4	-14.73	0245
	0.75	29.1	-0.4	46.4	8.9	2.1	-13.25	0246
	0.75	19.7	-0.9	29.1	5.9	0.7	-13.64	0247
CLIMB	0.80	88.5	7.6	125.5	27.4	16.4	11.56	0248
M.C.	0.80	81.8	6.2	115.0	24.5	14.2	17.85	0249
	0.80	75.9	4.9	107.4	22.0	12.1	51.64	0250
	0.80	61.5	2.6	78.2	15.2	8.0	-31.78	0251
	0.80	49.5	1.1	55.2	10.0	5.3	-15.86	0252
	0.80	38.8	-0.0	55.5	10.4	3.4	-12.47	0253
	0.80	30.2	-0.4	48.0	9.1	2.1	-11.60	0254
	0.80	20.2	-1.0	29.8	5.9	0.5	-12.18	0255

PC370-42 TURBOPROP

SENSITIVITY DATA FOR BLEED, INLET RECOVERY, AND EXHAUST DUCT LOSS

25000 FEET ALTITUDE

POWER	MACH	PER PCT INLET REC DEL SFP	PER PCT INLET REC DEL FN	PER PCT BLEED DEL SHP	PER PCT BLEED DEL WF	PER PCT BLEED DEL FN	K	NO
INTER	0.40	60.2	6.2	55.7	10.0	0.0	5.32	Q
M.C.	0.40	60.4	6.2	66.3	13.6	0.0	5.48	R
	0.40	57.4	5.4	72.3	15.1	0.0	6.38	S
	0.40	48.0	3.8	67.0	13.8	0.0	10.38	T
	0.40	38.6	2.3	50.5	10.1	0.0	20.74	U
	0.40	30.0	1.5	32.9	6.3	0.0	57.79	V
	0.40	22.3	0.8	30.7	6.2	0.0	-329.73	W
	0.40	16.4	0.3	25.7	5.5	0.0	-67.39	X
INTER	0.50	63.3	6.5	61.0	11.2	0.0	5.56	256
M.C.	0.50	62.7	6.2	72.1	15.2	0.0	6.15	257
	0.50	59.2	5.3	80.6	17.1	0.0	7.46	258
	0.50	49.0	3.5	68.9	14.1	0.0	14.29	259
	0.50	39.1	2.5	50.4	9.8	0.0	39.60	260
	0.50	30.5	1.1	33.8	6.3	0.0	-235.49	261
	0.50	23.0	0.6	32.6	6.4	0.0	-45.81	262
	0.50	16.8	0.1	26.5	5.6	0.0	-32.32	263
INTER	0.60	68.5	6.8	78.0	16.8	0.0	6.10	264
M.C.	0.60	65.2	6.2	80.1	16.8	0.0	6.93	265
	0.60	61.0	5.1	89.3	19.2	0.0	9.14	266
	0.60	50.3	3.4	70.9	14.4	0.0	22.69	267
	0.60	40.5	1.9	50.6	9.7	0.0	1423.42	268
	0.60	31.8	0.7	35.2	6.5	0.0	-36.92	269
	0.60	23.5	0.3	35.2	6.8	0.0	-24.37	270
	0.60	18.0	-0.2	28.7	5.9	0.0	-20.83	271
INTER	0.70	71.2	7.0	87.0	18.8	0.0	6.73	272
M.C.	0.70	69.0	6.4	94.1	20.3	0.0	7.99	273
	0.70	63.2	5.1	91.3	19.6	0.0	12.09	274
	0.70	51.5	3.0	72.4	14.7	0.0	59.20	275
	0.70	41.9	1.6	50.5	9.5	0.0	-40.86	276
	0.70	33.1	0.6	38.2	6.9	0.0	-19.85	277
	0.70	25.0	0.0	37.9	7.2	0.0	-15.97	278
	0.70	19.3	-0.5	30.6	6.2	0.0	-15.33	279
INTER	0.75	73.8	7.2	95.6	21.0	0.0	7.07	280
M.C.	0.75	70.2	6.5	100.0	21.7	0.0	8.73	281
	0.75	64.0	4.9	91.3	19.1	0.0	14.81	282
	0.75	53.3	3.0	70.9	14.2	0.0	304.70	283
	0.75	42.6	1.5	49.8	9.3	0.0	-26.78	284
	0.75	33.7	0.5	40.8	7.4	0.0	-16.00	285
	0.75	25.6	-0.1	39.7	7.5	0.0	-13.69	286
	0.75	19.5	-0.7	30.2	6.0	0.0	-13.35	287
INTER	0.80	74.7	7.3	102.3	22.7	0.0	7.52	288
M.C.	0.80	71.7	6.5	105.1	23.0	0.0	9.78	289
	0.80	65.0	4.9	91.9	19.3	0.0	18.68	290
	0.80	54.5	2.9	72.9	14.4	0.0	-97.46	291
	0.80	43.3	1.4	50.1	9.3	0.0	-19.74	292
	0.80	34.1	0.6	43.1	7.9	0.0	-13.26	293
	0.80	26.3	-0.2	41.5	7.7	0.0	-17.81	294
	0.80	19.8	-0.8	29.2	5.7	0.0	-11.89	295

PD370-42 TURBOPROP

SENSITIVITY DATA FOR BLEED, INLET RECOVERY, AND EXHAUST DUCT LOSS

30000 FEET ALTITUDE

POWER	MACH	PER PCT INLET REC DEL SHP	PER PCT INLET REC DEL FN	PER PCT BLEED DEL SHP	PER PCT BLEED DEL WF	PER PCT BLEED DEL FN	K	NO
CLIMB	0.50	50.6	5.2	47.1	8.5	7.0	5.63	0296
M.C.	0.50	50.6	5.2	47.1	8.5	7.0	5.63	0297
	0.50	49.6	4.8	56.5	11.6	7.8	6.20	0298
	0.50	43.3	3.6	60.9	12.7	6.9	9.76	0299
	0.50	34.5	2.2	47.7	9.5	4.6	22.46	0300
	0.50	27.2	1.5	31.9	6.0	3.2	132.95	0301
	0.50	20.6	0.6	25.7	4.9	2.0	-66.10	0302
	0.50	14.9	0.2	23.0	4.6	1.2	-35.21	0303
CLIMB	0.60	53.5	5.6	49.4	8.7	8.0	5.68	0304
M.C.	0.60	54.9	5.6	60.5	12.8	9.0	5.76	0305
	0.60	51.9	4.9	64.3	13.5	8.7	6.99	0306
	0.60	44.6	3.4	62.5	12.5	7.2	13.44	0307
	0.60	35.4	2.0	47.5	9.3	4.7	52.29	0308
	0.60	27.6	1.3	31.5	5.9	3.1	-62.77	0309
	0.60	21.3	0.4	28.2	5.3	2.1	-27.74	0310
	0.60	15.6	-0.0	24.5	4.8	1.2	-21.51	0311
CLIMB	0.70	59.2	6.4	65.4	14.0	10.5	5.47	0312
M.C.	0.70	57.3	5.9	66.2	14.1	10.2	6.24	0313
	0.70	54.3	5.0	74.2	15.9	10.0	8.08	0314
	0.70	45.4	3.1	64.0	13.0	7.2	21.80	0315
	0.70	36.7	1.9	47.7	9.2	4.9	-150.63	0316
	0.70	29.3	0.8	32.5	5.8	3.1	-24.85	0317
	0.70	22.1	0.2	30.9	5.8	2.1	-17.32	0318
	0.70	16.5	-0.3	26.4	5.1	1.1	-15.18	0319
CLIMB	0.75	60.8	6.5	67.4	14.4	11.2	5.61	0320
M.C.	0.75	58.6	6.1	70.3	15.2	11.0	6.48	0321
	0.75	55.4	5.1	80.1	17.3	10.9	8.83	0322
	0.75	46.3	3.1	65.8	13.2	7.6	30.92	0323
	0.75	37.3	1.8	47.6	9.1	4.9	-49.75	0324
	0.75	29.8	0.7	32.9	5.8	3.2	-18.87	0325
	0.75	22.8	0.1	32.6	6.0	2.1	-14.51	0326
	0.75	17.0	-0.4	27.2	5.2	1.0	-13.13	0327
CLIMB	0.80	62.3	6.9	72.0	15.7	12.1	5.74	0328
M.C.	0.80	60.5	6.2	77.7	17.0	12.1	6.73	0329
	0.80	56.5	5.1	84.4	18.0	11.5	9.88	0330
	0.80	47.7	3.1	67.1	13.4	7.7	54.10	0331
	0.80	37.9	1.6	47.5	9.0	5.0	-29.51	0332
	0.80	30.4	0.6	33.8	6.0	3.3	-15.15	0333
	0.80	23.3	-0.0	34.3	6.3	2.2	-12.37	0334
	0.80	17.6	-0.5	28.3	5.3	1.0	-11.61	0335

PD370-42 TURBOPROP

SENSITIVITY DATA FOR BLEED, INLET RECOVERY, AND EXHAUST DUCT LOSS

35000 FEET ALTITUDE

POWER	MACH	PER PCT INLET REC DEL SHP	PER PCT INLET REC DEL FN	PER PCT BLEED DEL SHP	PER PCT BLEED DEL WF	PER PCT BLEED DEL FN	K	NO
CLIMB	0.50	39.5	4.1	36.6	6.6	5.5	5.69	0336
M.C.	0.50	39.5	4.1	36.6	6.6	5.5	5.69	0337
	0.50	39.5	4.1	36.6	6.6	5.5	5.69	0338
	0.50	36.6	3.5	48.3	9.8	6.2	7.31	0339
	0.50	30.0	2.2	42.0	8.4	4.6	14.09	0340
	0.50	23.8	1.5	30.5	5.9	3.1	43.12	0341
	0.50	18.3	0.7	20.1	3.7	1.9	-158.04	0342
	0.50	13.3	0.3	19.6	3.9	1.3	-42.44	0343
CLIMB	0.60	42.8	4.4	39.7	7.3	6.4	5.73	0344
M.C.	0.60	42.8	4.4	39.7	7.3	6.4	5.73	0345
	0.60	42.3	4.4	46.6	9.6	7.1	5.79	0346
	0.60	38.1	3.4	53.5	11.1	6.7	8.86	0347
	0.60	30.8	2.1	43.2	8.7	4.6	22.69	0348
	0.60	24.2	1.1	30.9	5.8	2.9	-647.35	0349
	0.60	18.9	0.5	21.4	3.9	1.9	-35.03	0350
	0.60	13.7	0.1	20.8	4.0	1.2	-22.97	0351
CLIMB	0.70	46.0	5.0	42.7	7.9	7.3	5.53	0352
M.C.	0.70	46.0	5.0	42.7	7.9	7.3	5.53	0353
	0.70	45.3	4.7	51.7	10.9	8.1	6.26	0354
	0.70	39.3	3.3	56.2	11.7	7.1	11.61	0355
	0.70	31.8	1.9	44.4	8.8	4.7	59.16	0356
	0.70	25.6	1.0	30.9	5.7	3.0	-37.43	0357
	0.70	19.7	0.4	23.6	4.2	2.0	-19.53	0358
	0.70	14.4	-0.1	22.5	4.2	1.1	-15.63	0359
CLIMB	0.75	48.1	5.4	44.5	8.4	8.0	5.31	0360
M.C.	0.75	48.1	5.4	44.5	8.4	8.0	5.31	0361
	0.75	45.9	4.7	55.8	11.9	8.7	6.52	0362
	0.75	40.1	3.3	57.1	11.6	7.4	13.95	0363
	0.75	32.5	1.8	44.2	8.7	4.8	344.31	0364
	0.75	25.9	0.9	30.5	5.5	3.1	-25.25	0365
	0.75	20.1	0.3	25.3	4.5	2.1	-15.92	0366
	0.75	14.8	-0.2	23.3	4.3	1.1	-13.31	0367
CLIMB	0.80	50.2	5.8	46.2	8.7	8.8	5.03	0368
M.C.	0.80	50.2	5.8	46.2	8.7	8.8	5.03	0369
	0.80	47.8	4.9	60.7	13.0	9.6	6.77	0370
	0.80	40.6	3.1	57.3	11.6	7.3	17.80	0371
	0.80	33.0	1.8	44.4	8.6	4.9	-90.13	0372
	0.80	26.9	0.8	30.7	5.5	3.1	-18.87	0373
	0.80	20.5	0.0	26.9	4.8	2.0	-13.02	0374
	0.80	15.2	-0.3	24.2	4.4	1.2	-11.58	0375

PD370-42 TURBOPROP

SENSITIVITY DATA FOR BLEED, INLET RECOVERY, AND EXHAUST DUCT LOSS

40000 FEET ALTITUDE

		PER PCT INLET REC		PER PCT BLEED				
POWER	MACH	DEL SHP	DEL FN	DEL SHP	DEL WF	DEL FN	K	NO
CLIMB	0.50	31.2	3.2	29.1	5.3	4.3	5.71	0376
M.C.	0.50	31.2	3.2	29.1	5.3	4.3	5.71	0377
	0.50	31.2	3.2	29.1	5.3	4.3	5.71	0378
	0.50	29.3	2.7	36.3	7.4	4.7	7.01	0379
	0.50	24.2	1.8	33.7	6.7	3.7	12.87	0380
	0.50	19.1	1.3	25.0	4.8	2.6	37.01	0381
	0.50	14.8	0.6	16.4	3.0	1.5	-247.79	0382
	0.50	10.6	0.2	15.5	3.0	1.1	-44.23	0383
CLIMB	0.60	33.3	3.5	31.1	5.7	5.0	5.75	0384
M.C.	0.60	33.3	3.5	31.1	5.7	5.0	5.75	0385
	0.60	33.3	3.5	31.1	5.7	5.0	5.75	0386
	0.60	30.5	2.7	42.0	8.7	5.3	8.32	0387
	0.60	24.9	1.7	34.8	7.1	3.7	19.80	0388
	0.60	19.9	1.0	25.3	4.9	2.5	426.76	0389
	0.60	15.3	0.5	17.0	3.1	1.6	-38.16	0390
	0.60	11.1	0.1	16.6	3.2	1.0	-23.66	0391
CLIMB	0.70	35.7	3.8	33.2	6.2	5.8	5.56	0392
M.C.	0.70	35.7	3.8	33.2	6.2	5.8	5.56	0393
	0.70	35.6	3.8	39.7	8.3	6.4	5.97	0394
	0.70	31.7	2.8	45.8	9.6	5.9	10.40	0395
	0.70	25.6	1.6	35.9	7.1	3.9	43.24	0396
	0.70	20.5	0.8	25.2	4.7	2.5	-43.30	0397
	0.70	15.9	0.3	18.3	3.3	1.6	-20.15	0398
	0.70	11.6	-0.0	17.8	3.3	0.9	-15.77	0399
CLIMB	0.75	37.7	4.2	34.9	6.6	6.3	5.34	0400
M.C.	0.75	37.7	4.2	34.9	6.6	6.3	5.34	0401
	0.75	36.3	3.8	41.8	8.8	6.8	6.19	0402
	0.75	32.3	2.8	45.7	9.5	5.9	12.15	0403
	0.75	26.1	1.5	36.2	7.1	4.0	109.53	0404
	0.75	20.9	0.7	25.2	4.6	2.5	-27.57	0405
	0.75	16.2	0.1	19.5	3.4	1.6	-15.98	0406
	0.75	11.9	-0.1	18.6	3.4	0.9	-13.42	0407
CLIMB	0.80	39.4	4.6	36.3	6.9	6.8	5.05	0408
M.C.	0.80	39.4	4.6	36.3	6.9	6.8	5.05	0409
	0.80	37.6	3.9	46.0	9.9	7.4	6.39	0410
	0.80	32.6	2.7	45.9	9.5	6.0	14.93	0411
	0.80	26.5	1.5	36.1	7.0	4.0	-195.99	0412
	0.80	21.3	0.7	25.0	4.5	2.6	-20.10	0413
	0.80	16.6	0.1	20.9	3.7	1.6	-13.30	0414
	0.80	12.2	-0.2	19.4	3.6	0.9	-11.64	0415

PD370-42 TURBOPROP

SENSITIVITY DATA FOR BLEED, INLET RECOVERY, AND EXHAUST DUCT LOSS

45000 FEET ALTITUDE

POWER	MACH	PER PCT INLET REC DEL SHP	PER PCT INLET REC DEL FN	PER PCT BLEED DEL SHP	PER PCT BLEED DEL WF	PER PCT BLEED DEL FN	K	NO
CLIMB	0.50	24.2	2.5	22.7	4.1	3.4	5.71	0416
M.C.	0.50	24.2	2.5	22.7	4.1	3.4	5.71	0417
	0.50	24.2	2.5	22.7	4.1	3.4	5.71	0418
	0.50	23.0	2.1	28.6	5.8	3.7	7.01	0419
	0.50	19.0	1.5	26.6	5.3	3.0	12.82	0420
	0.50	15.1	0.9	19.7	3.8	2.1	36.71	0421
	0.50	11.7	0.5	12.8	2.4	1.2	-242.51	0422
	0.50	8.4	0.2	12.1	2.4	0.8	-43.82	0423
CLIMB	0.60	25.9	2.8	24.6	4.5	3.9	5.74	0424
M.C.	0.60	25.9	2.8	24.6	4.5	3.9	5.74	0425
	0.60	25.9	2.8	24.6	4.5	3.9	5.74	0426
	0.60	23.9	2.1	32.3	6.7	4.1	8.31	0427
	0.60	19.6	1.4	27.3	5.5	3.0	19.62	0428
	0.60	15.4	0.7	19.9	3.8	1.9	431.03	0429
	0.60	11.9	0.3	13.3	2.4	1.2	-37.66	0430
	0.60	8.7	0.1	13.1	2.5	0.8	-23.91	0431
CLIMB	0.70	28.3	3.0	26.4	4.9	4.6	5.56	0432
M.C.	0.70	28.3	3.0	26.4	4.9	4.6	5.56	0433
	0.70	27.9	3.0	31.3	6.6	5.0	5.96	0434
	0.70	25.2	2.2	36.1	7.5	4.7	10.35	0435
	0.70	20.1	1.3	28.2	5.6	3.1	42.54	0436
	0.70	16.2	0.6	19.8	3.7	2.0	-43.19	0437
	0.70	12.5	0.3	14.4	2.6	1.3	-20.24	0438
	0.70	9.1	-0.0	14.0	2.6	0.7	-15.81	0439
CLIMB	0.75	29.4	3.3	27.4	5.2	5.0	5.33	0440
M.C.	0.75	29.4	3.3	27.4	5.2	5.0	5.33	0441
	0.75	28.5	3.0	33.1	7.0	5.4	6.19	0442
	0.75	25.4	2.1	35.9	7.5	4.6	12.24	0443
	0.75	20.5	1.2	28.5	5.6	3.1	108.83	0444
	0.75	16.4	0.6	19.8	3.6	2.0	-27.52	0445
	0.75	12.7	0.1	15.3	2.7	1.2	-15.96	0446
	0.75	9.4	-0.1	14.6	2.7	0.7	-13.45	0447
CLIMB	0.80	30.7	3.5	28.5	5.4	5.4	5.05	0448
M.C.	0.80	30.7	3.5	28.5	5.4	5.4	5.05	0449
	0.80	-6.7	-1.1	35.9	7.8	5.9	6.39	0450
	0.80	25.7	2.2	36.2	7.4	4.8	14.83	0451
	0.80	20.8	1.2	28.3	5.5	3.2	-208.41	0452
	0.80	16.8	0.6	19.6	3.5	2.0	-20.13	0453
	0.80	13.0	0.0	16.4	2.9	1.3	-13.31	0454
	0.80	9.6	-0.1	15.2	2.8	0.7	-11.63	0455

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